User Reference

BIM-Epic

Version 7 Release 1B

Disk/Tape Management Tool

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Preface

Most BIM-EPIC features operate in conjunction with controlled datasets, which BIM-EPIC catalogs and maintains. Controlled datasets are assumed in the discussion of each feature. Uncontrolled datasets are noted explicitly.

BIM-EPIC configuration options govern how BIM-EPIC performs. Default options are assumed in the main body of this manual. Variations caused by non–default options are described in the *BIM-EPIC Installation and System Guide*. Please consult your systems programmer if BIM-EPIC performs differently from the description in the documentation.

This manual contains references to the products BIM-GSS and BIM-FAQS/ASO. Unless specifically stated otherwise, the products CA-GSS and/or CA-FAQS/ASO from Computer Associates can be used instead of the BIM products.

Special Terms

The following terms have specific meanings in this manual.

Term	Meaning
Enter	Type the boldfaced characters and press the Enter key.
Type	Type the boldfaced characters without pressing Enter.
Character	Alphanumeric characters A to Z and 0 to 9.

Command Syntax

BIM-EPIC commands and control statement descriptions have the correct syntax or format used. The following example shows a command syntax convention.

```
COMMAND   value
          [,PARM1=(value1,value2,...valuen)]
          {,NOFUNCTION | ,FUNCTION}
          [,DOTHIS=YES|NO]
```

Element	Example	Description
Upper-case characters	COMMAND	Upper-case characters must be specified as shown.
Italics	value	Italics represent variable information. When entering variable information, do not enter the characters shown. Replace the characters shown with the information the characters represent.

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Element	Example	Description
Square brackets	[,PARM1=(*value*1, *value*2,...*value*n)]	information within square brackets indicates optional information. If the optional information is provided, do not include the brackets.
Parentheses	(value1,value2, . . . value*n*)	Parentheses indicate required subparameters or values grouped together within a single parameter. If a parameter contains only one value, you do not need to include parentheses in your command or control statement.
Braces	{ }	Braces surround a list of required values or parameters; however, only one value or parameter is required. Braces should not be included in your command or control statement.
Vertical bar	DOTHIS=YES | NO	Vertical bars separate values that are mutually exclusive, YES | NO. Enter only one of the values.
Underline	YES	Underlined items indicate a default value that is used if the parameter is not specified, <u>YES</u> | NO.

Note:
You must specify the parameters in the order shown, unless other instructions are provided.

Parameter Tables

Most commands, control statements, and macro statements use parameters. Parameter tables indicate whether the parameter is required or

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optional, valid values, and any default setting. Parameter tables display information in the following format:

Parameter	Required?	Valid Entry	Default
value	Yes	1 to 99 characters	-----
PARM1	No	See syntax	VALUEA
One of the following two is required:			
FUNCTION	-----	-----	-----
NOFUNCTION	-----	-----	-----
DOTHIS	No	YES or NO	YES

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Contacting BIM-EPIC Technical Support

Normal Business Hours Support

You can reach BIM-EPIC Technical Support at any time. Our normal operating hours are from 6:00 AM to 4:00 PM Pacific Time. In addition to our regular customer support, we have technicians available for emergency support 24 hours a day, 7 days a week. The phone number to call for emergency support is listed on the www.bimoyle.com home page.

If you are outside the United States or Canada, contact your BIM sales representative.

BIM-EPIC Technical Support relies on your description of a problem in order to accurately determine the cause of your problem. The more information you can provide, the more promptly a solution can be determined. By following the guidelines below, you can help BIM-EPIC Technical Support provide you with the exceptional service our customers have learned to expect.

Procedure

Before contacting BIM-EPIC Technical Support, obtain the required information by completing the following procedure:

Step	Action
1	Obtain as many details describing the problem as you can. Based on the information that you have gathered, classify your call using one of the following categories: ■ MALFUNCTION IN A USER PROGRAM: A user program behaves differently with BIM-EPIC turned on than with BIM-EPIC turned off. ■ MALFUNCTION IN VSE: VSE malfunctions when BIM-EPIC is turned on. For example, you receive non-interruptible wait states or system loops. ■ BIM-EPIC FAILURE: An overall BIM-EPIC failure (abend). ■ OPERATIONAL MALFUNCTION: A particular BIM-EPIC function or message does not operate correctly. ■ QUESTION: Seeking “how-to” information or general knowledge.

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Step	Action
2	If your problem is classified in category 1, 2, 3, or 4, you will need the following: ■ A current TSIDDEB Summary Report. This contains details concerning BIM-EPIC and VSE environment. ■ The CONSOLE LOG with our messages turned on. This provides a step-by-step history of the situation. ■ The JCL, including expansions of // EXEC PROC and * $$SLI statements. This provides the information necessary to enable the technical staff to re-create the problem. ■ A DUMP, if one is produced. This is necessary if the technical staff cannot re-create your problem due to differences in hardware or software. Have your documentation ready and available before proceeding to step 3.
3	Contact BIM-EPIC Technical Support by telephone at 800-795-4914 Ext 4025, which is also located on the www.bimoyle.com home page. Or by sending an e-mail with the associated documentation to BIM-EPIC@E-VSE.COM. When calling, you will be asked a series of questions. Please answer them as accurately as possible. This will enhance our ability analyze your situation promptly and provide you a timely response. **Note:** If you have classified your problem in category 1, 2, 3, or 4 and are sending an e-mail, please include the additional documentation requested in step 2.

After-Hours Emergency Support

Complete the procedure indicated above.

When calling for after-hours emergency support, an outside answering service will answer your call. Please be clear and concise when providing the following: your name, the company name, the telephone number where you can be reached, and a brief description of the problem. Be sure to mention clearly that you need assistance with the BIM-EPIC product.

The answering service will page the support technician on call. Please remain within hearing distance of the phone number you provided. A response will take approximately 20-30 minutes. If you do not receive a response within this time frame, call again to verify that we have the correct phone number. Long delays usually indicate that we are having difficulty contacting you based on the information you provided.

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Related Publications

Description

The following documents describe important BIM-EPIC technical information. They assume appropriate knowledge of the relevant IBM operating system.

- *BIM-EPIC Installation and System Guide* contains detailed procedures for BIM-EPIC system installation, configuration, and maintenance. It assumes that you have access to the *BIM-EPIC User Reference Guide*.
- *BIM-EPIC User Reference Guide* serves as both user guide and reference to BIM-EPIC operating features.
- *BIM-EPIC Messages and Codes* lists and describes BIM-EPIC messages and codes, including message responses and problem resolution.
- *BIM-EPIC Conversion Guide* contains instructions for converting to BIM-EPIC from another tape and disk management system.
- *BIM-EPIC Technical Release Notice* lists enhancements and feature changes that have been put in place since the last release. It also describes any special information required for upgrading to the current release.

Technical Notes, distributed on the BIM-EPIC installation tape, contains the latest technical information, including updates to BIM-EPIC printed documentation. This document is contained in the TECHNOTE.Z member in the VSE sub-library where BIM-EPIC is installed.

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1

Introduction

This chapter is an overview of the BIM-EPIC product. The *BIM-EPIC Disk/Tape Management System User Reference* manual is written to include all levels of programmer expertise. Even if you are very familiar with the topics discussed in this chapter, we encourage you to review this material, since several topics in this chapter contain information unique to BIM-EPIC.

Chapter Contents

BIM-EPIC Fundamentals
BIM-EPIC Datasets
BIM-EPIC Dataset Definitions
BIM-EPIC Versioning and Retention
BIM-EPIC Job Control Language
BIM-EPIC Tape Processing
BIM-EPIC Disk Processing

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BIM-EPIC Fundamentals

Configuration Options

Description

BIM-EPIC provides configuration options which allow you to customize many aspects of your processing. Consult your systems programmer or the *BIM-EPIC Installation and System Guide* if you have a question about a specific configuration option.

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Controlled Datasets

Description

BIM-EPIC controls datasets best when the dataset has a Dataset Name (DSN) Catalog entry. The information contained in a DSN Catalog entry determines how BIM-EPIC processes a dataset.

When a dataset is controlled by the DSN Catalog, the following is available.

- Where each existing version is written
- Where new versions can be written
- How each version is written (for example, allocation size, block size, density, multi-dataset)
- How long each version is retained
- How many versions are kept at one time
- Processing statistics for each version (creation date, last access date, block count)
- Vault location of tape versions

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Start Track 1 Datasets

Description

A Start Track 1 dataset is a disk dataset that is defined by specifying the number 1 (one) in the relative track field of the VSE EXTENT statement. For example:

```
// DLBL MYFILE,'ANY.FILE'
// EXTENT SYS005,SYSWK3,1,0,1,20
```

In the above example, BIM-EPIC allocates 20 tracks to the MYFILE dataset since the number 1 is in the relative track field. Using any other number in relative track field indicates that BIM-EPIC will not handle the allocation. The usual VSE JCL rules and requirements apply.

Start Track 1 datasets are only partially controlled. BIM-EPIC allocates disk space for the dataset on output and will find the dataset on input. However, no entry is made in the DSN Catalog, so no additional information about the dataset is kept. You must supply the name of the BIM-EPIC disk pool to use and the number of tracks or blocks to allocate for the dataset. JCL supplies all remaining information.

A benefit of using Start Track 1 datasets is that the datasets do not need to be entered in the DSN Catalog. However, Start Track 1 datasets require significantly more I/O operations when opened, and only one version can be kept on disk.

Because Start Track 1 dataset extents are not recorded in the DSN catalog, BIM-EPIC must find the dataset extents in the VTOC. All controlled datasets are written in pools, which can contain more than one volume. For Start Track 1 datasets, this requires BIM-EPIC to read the VTOC of every volume in the pool until it finds the dataset extents. This activity occurs for both input and output. For output datasets, BIM-EPIC deletes the previous version of a Start Track 1 dataset and then creates a new Start Track 1 dataset. In contrast, BIM-EPIC only needs to read a few records in the DSN Catalog to locate a cataloged dataset extent, no matter where it is written, and multiple versions can be kept on disk.

Start Track 1 datasets are retained and scratched like uncontrolled datasets. BIM-EPIC does not protect them from being deleted if their expiration date has passed. You can protect the dataset from deletion by using JCL, providing an expiration date or by indicating a number of days before the dataset is expired. If you do not specify an expiration date, BIM-EPIC provides the VSE default retention period of seven days.

To minimize overhead, Start Track 1 datasets should be cataloged to improve performance, no matter how often the job is run.

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Configuration Options

Start Track 1 datasets are affected by the AUTOCAT, CATRT1, MINRET, NCATDSK, and STRTRK configuration options. In addition, the datasets can be affected by other configuration options that apply to disk. See the *BIM-EPIC Installation and System Guide* for additional information.

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Other Types of Datasets

Description

BIM-EPIC can control SAM, ISAM, and DA datasets.

If the VSAM configuration option is set to YES, BIM-EPIC logs VSAM extent information in the DSN Catalog. Logging occurs each time a VSAM dataset is opened. BIM-EPIC always reflects the extents currently in use, even if the dataset contains multiple secondary allocations.

BIM-EPIC controls TYPEFLE=WORK files on disk only. BIM-EPIC cannot control TYPEFLE=WORK files on tape.

BIM-EPIC does not control datasets processed with the file names IJSYSNR, IJSYSPC, or IJSYSR*x*, even if the dataset name is cataloged. The system programmer can exclude additional file names from BIM-EPIC control by adding the file name to the TSIDMAP ILIST parameter.

Configuration Options

The CNTRL, UNCDSK, UNCTAP, and UNCTL configuration options affect the way uncontrolled datasets are processed. See the *BIM-EPIC Installation and System Guide* for details about TSIDMAP.

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BIM-EPIC Datasets

Dataset Name Catalog Entries

Description

The Dataset Name (DSN) Catalog information controls dataset actions based on information contained in the DSN Catalog. All information pertaining to a cataloged dataset name is called a DSN Catalog entry. The format and contents of an entry are described below.

DSN Catalog information is divided into two levels: the BIM-EPIC Dataset Definition (EDD) level and the Version level.

Each EDD contains all attributes associated with a unique dataset name. When a controlled dataset is opened or closed, BIM-EPIC uses these attributes to manage processing. The EDD is discussed later in this chapter.

BIM-EPIC enters version information automatically as each version is created. At least one catalog record is created for each version of the dataset. If the version spans more than one volume or extent, a catalog record is created for each additional volume or extent.

Version information includes information such as the location of the version, the expiration date, and the creation date. BIM-EPIC uses this data to control the use and retention of each version.

The following sections provide detailed explanations of the data contained in each DSN Catalog entry and how the various fields operate in conjunction with each other.

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Dataset Name Catalog Management

Description

Most updates to the Dataset Name (DSN) Catalog are made automatically as datasets are processed. However, sometimes you may want to add a special dataset or change the defaults you have supplied for an existing BIM-EPIC dataset definition. This can be done using either the BIM-EPIC Online Manager or TSIDMNT.

The BIM-EPIC Online Manager (EOM) is a panel-driven catalog management facility. EOM leads you step-by-step through the catalog management process and allows you to view the changes you have made to a dataset entry. The TSIDMNT program provides the same functions in batch mode.

See Chapter 2, “BIM-EPIC Online Manager” and Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for additional information.

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Dataset Name Catalog Maintenance

Description

The Dataset Name (DSN) Catalog must be maintained regularly. Maintenance includes regular backups and scratch runs, as well as periodic re-indexing.

Catalog maintenance is done using TSIDUTL. See the *BIM-EPIC Installation and System Guide* for additional information.

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BIM-EPIC Dataset Definitions

BIM-EPIC Dataset Definition Components

Description

The BIM-EPIC dataset definition (EDD) consists of several components. The following sections describe each component.

Dataset Name

BIM-EPIC uses the dataset name in the DSN Catalog to identify a dataset as a controlled dataset. Each time a controlled dataset is opened or closed, BIM-EPIC participates in the processing of the dataset.

The rules for dataset naming are:

- Non-generation dataset names can be up to 44 characters long.
- Generation dataset names can be up to 35 characters long.

Special considerations apply to tape datasets that belong to a multi-dataset group. See “Prime Dataset Name” for additional information.

Comment

You can include one 30-character comment with any BIM-EPIC dataset definition. Comments provide additional documentation for the dataset and are printed in BIM-EPIC reports.

Passwords

Passwords protect datasets and their associated versions against unauthorized uses of RELEASE and UNLOCK. A password does not LOCK, RELEASE, or UNLOCK the dataset. See Chapter 2, “BIM-EPIC Online Manager,” and Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for additional information on RELEASE and UNLOCK.

Encryption Password

Data encryption encodes tape datasets as they are written. The datasets are decoded only when they are read using the same DSN Catalog that was used to write them. Data encryption can be used to prevent tape datasets from being read at external locations. However, data encryption provides no protection against unauthorized internal use.

Entering an encryption password for a dataset invokes data encryption for each tape version you create. You do not need to remember this password. The encryption password and the dataset password function independently of each other. You can use both passwords, if necessary.

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WARNING:
Encrypted dataset versions must not be deleted from the DSN Catalog. Once a dataset version is deleted, its data cannot be decoded, making the dataset version is unreadable. In addition, once the dataset is cataloged, the encryption password cannot be added, changed, or deleted.

User ID and System ID

User ID and system ID assist in grouping tape datasets for reporting and scratching purposes. Each ID can contain any two-character code that is significant to you or your installation. There is no difference in how the IDs function. You can use either or both the user ID and system ID to group datasets at the various levels.

SYS Number

You can specify a specific SYS number to use for a dataset by entering the SYS number in the dataset definition. *This inhibits the BIM-EPIC Logical Unit Block (LUB) allocation for the dataset each time the dataset is processed.* You should avoid specifying a SYS number unless it is absolutely necessary. You can allow the BIM-EPIC LUB Allocation feature to assign a SYS number for you or you can inhibit LUB allocation through JCL. If you choose to assign a SYS number in the dataset definition, do not use the same number for a different dataset in the same job step in your JCL.

Block Size

Block size reblocks datasets and overrides any block size coded in the program file definition. If the block size specified is not a multiple of the record length, BIM-EPIC automatically rounds down to the closest multiple.

Reblocking is valid only for sequential datasets with fixed or variable record formats. In addition, the program must specify fixed or variable length record formats in its file definition coding. Reblocking is supported for all datasets processed by logical input/output control services (LIOCS), but may be ignored by programs that use physical PIOCS to process the dataset. Reblocking is not valid for tape datasets which will be read backward.

Block size and CISIZE are mutually exclusive. You can specify only one, either the block size or CISIZE, in an BIM-EPIC dataset definition.

Generation or Work Dataset

BIM-EPIC provides four retention criteria: generation or work, retention days, and date after last access (DLA) retention. All of the criteria work together to determine retention for active versions.

The generation or work field specifies whether to keep more than one version of the dataset at a time. When you designate a dataset as a generation dataset, BIM-EPIC maintains *at least* the number of versions specified in the Cycles Retention field. Because each version is also

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retained for the periods indicated in the Retention Days field and the DLA Retention field, BIM-EPIC can retain more versions than the number specified in the Cycles Retention field. Cycles 5 and Retentions Days 0 will insure that 5 versions are always present. Cycles 5 and Retention Days 60 may result in more than 5 versions being present.

When you designate a dataset as a non-generation dataset or work dataset, BIM-EPIC retains only one version of the dataset at a time. As long as no new version is created, the version is retained for the time period indicated in the Retention Days field and the DLA Retention field. When you create a new disk version of a non-generation/work dataset, the old version is scratched automatically, even if the old version has not expired. In addition, entries are automatically scratched from the VTOC to avoid the OVERLAP ON UNEXPIRED FILE message VSE generates. When you create a new tape version of a non-generation/work dataset, the old tape version is scratched when you execute TSIDUTL SCRATCH.

When you specify a cycles retention value of one (1) for a non-generation dataset, BIM-EPIC always retains one version, even if the other retention criteria have expired.

Retention Days

Retention days specify the number of days each version should be retained after its creation date.

You can use retention days to specify permanent retention (PERM). When a disk version is created with permanent retention, an expiration date of 2099366 is recorded in the VTOC entry. When BIM-EPIC sees the 2099366 expiration date, the dataset cannot be deleted in response to an INSUFFICIENT SPACE condition.

Cycles Retention

Cycles retention specifies the minimum number of active versions (cycles) to maintain at all times. To maintain more than one version, you must designate the dataset as a generation dataset.

DLA Retention

Days after Last Access (DLA) retention relates expiration to dataset use. Even if other retention criteria have expired, the dataset cannot expire if it has been accessed as input during the last *n* days.

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BIM-EPIC Dataset Definition–Tapes

Description

BIM-EPIC dataset definitions (EDD) for tapes consist of several components. The following sections provide an overview of each component.

Standard Label

The label specifies whether an output tape dataset is created on a labeled tape or an unlabeled tape.

Tape Density

Tape density specifies which density to use when creating a tape dataset. When a density is specified, BIM-EPIC scans only the tape drives that support the specified density when looking for a valid scratch tape. For example, you can use the tape density field to create a dataset on cartridge tapes only.

You can specify a default density for your site using the MODE configuration option. However, specifying a density in the BIM-EPIC dataset definition overrides the MODE default. Specifying a density in the JCL overrides both the MODE default and the BIM-EPIC dataset definition tape density. If no density is specified in any of these places, BIM-EPIC uses the last density that was used on the selected drive.

Prime Dataset Name

The prime dataset name links all datasets in a multi-dataset group. The link is created in the DSN Catalog record and allows BIM-EPIC to group datasets automatically. The first dataset on the tape is called the prime dataset. The second and subsequent datasets on the tape are called subdatasets.

Multi-dataset processing can be complex and requires pre-processing before a multi-dataset group can be created.

Tape Pool ID

The tape pool ID associates a dataset with a particular tape pool. Once a dataset is assigned to a tape pool, the dataset version can be written only on scratch tapes from the assigned tape pool. Datasets not assigned to a tape pool can be written only on scratch tapes that are not assigned to a tape pool.

Owner ID

The owner ID is a secondary pooling mechanism for tape datasets. An owner ID is a two-character code that matches the first two characters of a tape volume serial number. Owner ID is provided primarily for compatibility with older tape management systems. If an owner ID is specified for a dataset, all new tape versions must be created on tape volumes which begin with the owner ID two-character code.

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Revolving Tape Datasets

When you specify Revolving Tapes=YES for a dataset, you establish an exclusive relationship between a dataset and the tape serial numbers the dataset uses. A revolving tape volume can contain one version of a specific dataset and can be written only on specific tape volumes. A revolving tape volume cannot be used in an Automated Cartridge Library (ACL).

Tape Size

If you specify tape size as SMALL, BIM-EPIC requests a small scratch tape when the dataset is created. If a tape volume serial number ends in S, BIM-EPIC considers the tape small. Large tapes are the default and have no restriction on their volume serial numbers. This option cannot be used for tape cartridges.

Vault Method Number

A vault method establishes a pattern of movement through tape vaults for each tape version in the dataset. The vault method number field assigns a vault method and activates vaulting for the dataset.

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BIM-EPIC Dataset Definition–Disks

Description

BIM-EPIC dataset definitions (EDD) for disks consist of several components. The following sections provide an overview of each component.

CISIZE

CISIZE specifies a CISIZE for FBA devices and forces the dataset to be written to maximize the number of records written to a control interval. Use CISIZE instead of block size for datasets written on FBA devices.

CISIZE and block size are mutually exclusive. You can specify only one of these in an EDD.

Disk Pool Name

Use a disk pool name to assign disk datasets to a disk pool. Disk pools are referenced by a six-character pool name which can be a real volume serial number or an assigned name. The systems programmer creates disk pools.

The systems programmer can also create CPU or partition-independent disk pools:

- To specify CPU disk pools, use three dashes at the end of the disk pool name, for example, POL - - -.
- To specify partition-independent disk pools, use two dashes at the end of the disk pool name, for example, POOL - -.

If you do not assign a disk pool and a default disk pool has been specified by the DEFPOL configuration option, the dataset will be assigned to the default disk pool.

Primary Extent Size

The primary extent size defines the number of tracks or blocks allocated to the first extent. The minimum size is 1 CKD track or your CISIZE for FBA.

Secondary Extent Size

The secondary extent size defines the number of tracks or blocks allocated to every extent after the first extent. The default secondary extent size is half the size of the primary extent.

When the primary extent is filled, secondary extents are allocated automatically to a version of a sequential disk dataset. Secondary extents are supported only for programs that use logical IOCS and, if they support secondary allocations, programs that use physical IOCS.

Secondary Allocations

You can specify the maximum number of secondary extents allowable for a single dataset version. The maximum number is 255 secondary extents.

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Allocation by Logical Records

Allocation by logical records (ALR) automatically calculates the primary extent size. ALR overrides the primary extent size, if a primary extent size has been previously set. BIM-EPIC calculates the primary extent size based on:

- record length
- estimated number of records
- block size
- track/block capacity of the selected volume

ALR allows you to migrate from one device type to another without changing the allocation size.

ALR is valid only for sequential disk datasets created with a DTFSD.

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BIM-EPIC Versioning and Retention

Versioning Datasets

Description

As each version of a dataset is created, BIM-EPIC automatically records attributes specific to that version in the DSN Catalog. This section describes the attributes that are recorded.

Version Number

The version number identifies the version of a dataset. The current or most recently created version is always version 1. Whenever a new version of a dataset is created, previous version numbers are automatically incremented. Versions in scratch status, open status, or conditionally cataloged status do not have version numbers.

Generation Number

The generation number is a nine-character suffix, for example, .G=*nnnnnn*, appended to the dataset name when the dataset is written to the VTOC. A generation number begins in position 36 of the dataset name and is assigned to each generation disk version.

Since several versions of a generation dataset can be written on the same disk volume, BIM-EPIC appends a unique generation number to each dataset name to ensure that the dataset name is unique in the VTOC.

Although the VSE VTOC dataset name includes the generation number, BIM-EPIC does not consider the generation number to be part of the dataset name. Therefore, do not include the dataset name in your JCL when using BIM-EPIC to process the dataset under DSN Catalog control. Specify the dataset name only as it appears in the BIM-EPIC dataset definition.

Version Status

BIM-EPIC tracks the status of each version. The following information describes each BIM-EPIC status type.

Status Type	Indicator	Description
Active	A	The default status of an unlocked active version.
Open	O	Indicates a version did not close successfully. An open version cannot be used or scratched until you declare it closed using Online Manager or TSIDMNT.

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Status Type	Indicator	Description
Conditional Catalog	C	Indicates the version was created with the TESTJOB utility or a conditional catalog option in the JCL. The version is accessible as input only if it is the latest version for the specific dataset. In addition, the version can be accessed only by a job with the same name as the job that created it. To make the version an active version, declare the version closed using Online Manager or TSIDMNT. Versions with an open status or conditional catalog status have different retention rules than versions with an active status. See “Retaining Dataset” for additional information.
Scratch	S	Indicates a tape version with a scratch status. The tape can be overwritten at any time. Disk version records are deleted, not marked as scratch.
Lock	L	Indicates a version in locked status. A locked version cannot be accessed as input until it is unlocked or released using Online Manager or TSIDMNT.
Subdataset	N	Indicates a dataset in a multi-dataset group with file sequence number 2 or greater.
Work	W	Indicates a non-generation dataset.
Unlabeled	U	Indicates the version was created on an unlabeled tape.
MCAT	M	Indicates that the version has been MCATALOGed. The version can be an MCAT master version or alias version.
Offload status		Indicates the disk version has been moved to tape. See Chapter 13, “Disk Space Management,” for additional information.

Volume Serial Number

The volume serial number field indicates the volume serial number of the tape or disk volume on which the version is written. For multi-volume datasets, there is one volume serial number recorded for each volume.

Reel Number

The reel number indicates the tape volume sequence number for multi-volume datasets.

File Sequence Number

The file sequence number indicates the position of the dataset in a multi-dataset group.

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Extent Number and Address

BIM-EPIC records the extent addresses for each disk dataset. This information includes:

- extent sequence (1 for primary, 2 for the first secondary, and so on)
- beginning relative track or block number
- size of the initial allocation
- amount of allocation used

The amount of allocation used is smaller than the initial allocation if the dataset has been truncated.

BIM-EPIC may allocate an additional extent if the extent being processed is nearly full when the dataset is closed. This extra extent is called an EOF extent.

Record Format, Length, Block Count, Block Size

The actual record format, record length, block count, and block size are recorded for each version. This information is recorded when the dataset is created by a program that uses logical IOCS. The information can be zeros if the dataset is created by a program that uses physical IOCS.

Creation Date/Time

BIM-EPIC records the date and time the version was written.

Job/Device Address

BIM-EPIC records the name of the job that created the version, the partition in which it was created, and the address (*cuu*) of the device on which it was created.

Last Access: Job and Date

BIM-EPIC records the date the version was accessed and the name of the job that requested access, each time the version is opened.

Expiration Date

BIM-EPIC calculates an expiration date for each version based on retention days and DLA retention. A version remains active past its expiration date if it is still needed to satisfy cycles retention.

Tape Use and Error Count

The tape use count indicates the number of times the tape has been accessed. The tape error count indicates the number of read/write errors encountered.

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Tape use count and tape error count are kept for each tape while the tape is associated with a version. Both counts start from the last date the tape was cleaned.

Current Vault and Slot Location

The current vault and slot locations are recorded for each tape if the dataset is subject to a vault rotation method.

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Cataloging Datasets Automatically

Description

If the new dataset and version are to be controlled, they must have an entry in the DSN Catalog. Dataset entries and version entries can be created automatically for uncontrolled datasets using AUTOCAT and AUTOLOG. In addition, dataset entries and version entries can be created automatically using the DD statement parameter DISP=(*x*,CATLG).

AUTOCAT and AUTOLOG operate globally on all qualifying datasets. DISP=(*x*,CATLG) operates locally on the dataset specified in the DD statement. AUTOCAT and AUTOLOG are independent but perform parallel functions using the same rules. However, there is an important functional difference between them. AUTOCAT catalogs uncontrolled output tape datasets and versions. AUTOLOG catalogs uncontrolled input tape datasets only; versions are not cataloged.

See the *BIM-EPIC Installation and System Guide* for additional information on AUTOCAT and AUTOLOG. See Chapter 6, “BIM-EPIC DD Statement,” for additional information on the DISP=(*x*,CATLG) parameter.

AUTOCAT

AUTOCAT creates a dataset definition for an output dataset if that dataset is not in the DSN Catalog. All subsequent versions created under the dataset name will be cataloged also, including the version that triggered the AUTOCAT operation.

When automatically cataloging multi-dataset groups that are read out of sequence, verify that the prime dataset is entered in the DSN Catalog before reading any subdataset in the group. If the prime dataset is read first and the datasets are read in sequence, this requirement is satisfied.

The following fields are entered in each autocataloged dataset definition.

- Retention Days
- Cycles Retention
- Default Disk Pool
- Default Primary Extent

Datasets that are automatically cataloged are identified by a user ID and given the comment **** AUTO CATALOGUE **** when shown on reports and displays. The user ID is AC. All automatically cataloged datasets are generation datasets. These dataset definitions can be changed later using Online Manager or TSIDMNT.

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AUTOLOG

AUTOLOG creates a BIM-EPIC dataset definition (EDD) for an input tape dataset that is not already in the DSN Catalog. However, unlike AUTOCAT, AUTOLOG does not automatically catalog any versions to the EDD. You can use AUTOLOG to force standard EP001 MOUNT messages for previously uncontrolled input tape datasets.

When automatically logging multi-dataset groups that are read out of sequence, ensure that the prime dataset is entered in the DSN Catalog before any subdataset in the group is read. If the prime dataset is read first and the datasets are read in sequence, this requirement is satisfied.

Configuration Options

AUTOCAT, AUTOLOG, CATRT1, NCATDSK, CYCL, RETEN, DEFPOL, and DEFEXT configuration options affect automatic cataloging. AUTOCAT options can be specified differently for tape and disk.

There are three automatic cataloging options:

- Global
- SYSPARM
- None

Global AUTOCAT automatically catalogs all datasets if they are not already in the catalog.

SYSPARM AUTOCAT catalogs selected datasets. The datasets are automatically cataloged if the current SYSPARM matches the SYSPARM in the AUTOCAT configuration option or AUTOLOG configuration option.

If you turn off automatic cataloging, new datasets can only be cataloged using Online Manager or TSIDMNT.

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Retaining and Scratching Datasets

Description

Versions of catalog-controlled datasets must be scratched before their tapes and disk space can be reused. Because BIM-EPIC does not scratch datasets unless specifically instructed to do so, you must provide BIM-EPIC specific instructions. There are four methods of providing instructions to BIM-EPIC:

- Using JCL options (work/non-generation dataset versions only)
- Defining a dataset as “work” or as a common work dataset (CWDS)
- Using Online Manager or TSIDMNT
- Using TSIDUTL SCRATCH

The JCL scratch parameters can be used to delete work/non-generation dataset versions when the versions are closed for input or at the end of the job or job step. These versions are scratched regardless of whether or not the retention criteria have been satisfied.

By design, BIM-EPIC maintains only one version of a work/non-generation dataset. When a new version is opened, the previous disk version is deleted or the previous tape version is set to scratch status.

CWDS are retained only for the duration of a VSE job. CWDS are always deleted at the end of the job, whether the job ends normally or abnormally.

Online Manager and TSIDMNT SCRATCH can be used to scratch versions even if the retention criteria have not been satisfied.

The TSIDUTL SCRATCH function reviews all datasets in the DSN Catalog and deletes all versions that are eligible for scratch. A dataset is considered eligible for scratch when ALL the retention criteria have been satisfied.

You can also preview a scratch run using the TSIDUTL PSCRATCH function. This function gives you a listing of all tape datasets that are eligible for scratch on a particular date. Use this report to identify any expired datasets you might want to save and to obtain an estimate of the number of scratch tapes you will have available at any point.

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Retaining Dataset

Description

The retention rules for cataloged datasets are:

- Tapes are not made available for reuse and disk space is not released until dataset versions are scratched.
- Non-temporary versions are not scratched until the TSIDUTL SCRATCH function is executed. Versions are not scratched unless they meet eligibility criteria. A version is not eligible to be scratched until ALL the retention criteria have been satisfied.
- Any version can be scratched at any time using Online Manager or TSIDMNT SCRATCH. When a new work dataset version is opened, the previous work dataset version is scratched immediately.
- Work dataset versions opened as input can be scratched at close or at end-of-job or job step. JCL parameters are available to instruct BIM-EPIC to scratch disk versions, free space, and erase the entry from the VTOC. Tapes become available for reuse as output.
- Multi-dataset tape volumes are not made available for reuse until all dataset versions on the tape have been scratched.
- Conditionally cataloged versions can be scratched the day after they are created.
- Common work dataset versions are always scratched at end-of-job.
- Open versions can be scratched based on settings in the THLDOPEN parameters and DHLDOPEN parameters of the TSIDUTL SCRATCH function. The default is to retain open tape versions for one day and open disk versions for two days after their creation dates.

WARNING:
Tapes in open status can be reused before they are scratched. These tapes are accepted as scratch tapes if they are accessed in the same partition with a different job name. While this means that the tape is vulnerable to accidental reuse, it also means that the tape is immediately available as scratch. You can use special EPS configuration options to modify this setting.

The following provides examples of retention when using multiple criteria.

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Example 1

The following is an example of retaining *x* versions for *y* days. In the example, you need to retain each version of an inventory dataset for 100 days. You also need to retain the last 10 versions, regardless of when the versions were created. The dataset definition specifies:

```
Generation Dataset......YES
Retention Days.......100
Retention Cycles.....10
Retention DLA........0
```

Case 1 During the first 100 days after creating the first version, you create a total of nine versions. On day 101, no versions are scratched because you still have not completed 10 cycles.

Case 2 If you create version 11 after 60 days, no version is eligible for scratch because the first version you created is only 60 days old. This version is retained until day 100 regardless of the number of versions created as of that time.

Example 2

The following is an example retaining a work dataset for *x* number of days after its last access. In the example, an accounting job produces results from work datasets in multiple stages. If you decide to save the work datasets for 15 days as of the last date you use the data, you would catalog the dataset with:

```
Generation Dataset......NO
Retention Days.......0
Retention Cycles.....0
Retention DLA........15
```

Each version is saved for 15 days after its last access.

Example 3

The following is an example of what is required if you want a temporary dataset.

```
Generation Dataset......NO
Retention Days.......0
Retention Cycles.....0
Retention DLA........0
```

All versions are eligible for scratch at all times.

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Retaining Start Track 1 Datasets

Description

BIM-EPIC retains Start Track 1 datasets with period retention only. Expiration is determined by the JCL or by the default retention for Start Track 1 datasets specified in the DSKRET configuration option. The existing version is deleted when a new version is created.

TSIDUTL SCRATCH does not examine Start Track 1 datasets. The space occupied by a Start Track 1 dataset becomes available for re-use when the VTOC expiration date has been reached.

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Overriding Standard Retention

Description

Since the default retention criteria may not be suitable for every version of every dataset, you may want to occasionally modify retention criteria. You can change retention for new versions, for existing versions, or for the entire dataset.

Retention days or an expiration date specified on a TLBL statement, DLBL statement, or DD statement for an output dataset overrides the catalog default.

You can change the retention of a cataloged version using RETAIN and/or CYCLE in Online Manager or TSIDMNT. To update the retention for all new versions of a dataset, you must update the retention of previous versions explicitly using RETAIN and/or CYCLE.

You can update existing Start Track 1 datasets to permanent retention using the TSIDVUT RETAIN, PERM, or PACKSCAN functions. You can delete the datasets before the expiration date is reached using the TSIDVUT DELETE or TSIDVUT PACKSCAN.

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Purging Dataset Information

Description

When Automatic Generation Purge (AGP) is enabled, BIM-EPIC automatically deletes DSN Catalog information pertaining to any disk dataset version with a version number that exceeds the cycle retention in the BIM-EPIC dataset definition (EDD).

AGP is enabled by setting AGP=YES when creating or updating an EDD in the DSN Catalog.

If the PURBYP configuration option is set to YES, an automatic delete will not occur if the job cancels before completion. If the PURBYP configuration option is set to NO, AGP remains in effect and the version is deleted.

Example

The following TSIDMNT command adds an EDD to the DSN Catalog. BIM-EPIC retains three versions of the dataset DSNA at all times. When a new version is created, the oldest version is automatically deleted at the end of the job.

```
CAT  'DSNA',CYC=3,AGP=YES,...
```


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Recording Dataset Activity

Description

The BIM-EPIC Recorder logs control dataset activity to a file, including:

- All DSN Catalog maintenance transactions, excluding TSIDVLT (vaulting) maintenance
- All open and close activities of controlled datasets
- Machine use and job accounting statistics

The Recorder file is vital to emergency recovery of the DSN Catalog. The file contains a record of all changes made to the DSN Catalog since the last catalog backup. In the event of a lost or corrupted catalog, BIM-EPIC uses the data in the Recorder file to recover the DSN Catalog.

You can use Recorder data to produce job-specific accounting reports. In addition, you can log your own comments in the Recorder file using the TSIDRFS utility. See the *BIM-EPIC Installation and System Guide* for additional information on the Recorder maintenance utility and related configuration options.

WARNING:
Keep the Recorder active at all times and verify that there is enough disk space to ensure the Recorder does not run out of space between DSN Catalog backups.

Configuration Options

The RECORD configuration option, RECWARN configuration option, RECWMSG configuration option, and RECSHR configuration option affect the functioning of the Recorder file. See the *BIM-EPIC Installation and System Guide* for additional information on the Recorder maintenance utility and related configuration options.

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Allocating Logical Unit Blocks (LUB)

Description

The VSE Logical Unit Blocks (LUB) connects the logical unit (SYS number) in a file definition DTF with the physical device address (*cuu*) that controls the dataset.

When a disk or tape dataset is opened, if the SYS number specified in the program is already in use, the LUB allocation feature assigns logical units for tape and disk devices. This eliminates potential conflicts in SYS number assignments when:

- A program or job stream uses the same SYS number for two different datasets and the datasets are stored on two different DASDs or tape units.
- The requested SYS number is permanently assigned to another device.

The LUB allocation feature reassigns new SYS numbers to both datasets and continues processing without interruption. In addition, LUB allocation allows BIM-EPIC to write multiple extents for a single dataset on separate disk volumes to more efficiently use the disk pooling feature.

When a dataset is opened and the SYS number is already in use, BIM-EPIC selects an unused SYS number. For disk datasets, BIM-EPIC begins assigning SYS numbers with the number specified in the DSKLUB configuration option. For tape datasets, BIM-EPIC begins with the number specified in the TAPLUB configuration option.

In most cases, LUB allocation is automatic. However, in some cases, LUB allocation is inhibited automatically. You can also inhibit the LUB allocation using JCL parameters. See Chapter 5, “BIM-EPIC TLBL and DLBL Statements,” for additional information.

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Managing Tape Devices

Drive Assignments

BIM-EPIC makes and releases drive assignments automatically using the Automatic Volume Recognition (AVR), Autoattach, and Early Drive Release features. Using these features, tape drives are assigned to a partition or virtual machine between open and close only. Performing the assignments in this manner frees up the tape drives between job start and open time or between close time and end-of-job, increasing the availability of the tape drives.

Tape drive assignments are affected by the SHARE and AUTOATT configuration options. Early Drive Release is activated for uncontrolled tapes if the configuration option UNCTAP=YES is specified.

Automatic Volume Recognition

BIM-EPIC does AVR processing for both tape and disk. When necessary, BIM-EPIC searches available drives for the correct volume and assigns that drive to the partition running the job.

A tape drive is considered available for output if it:

- Contains a valid tape with a tape volume serial number located in the DSN Catalog in scratch status or it has been initialized by DITTO
- Is ready and at load point
- Supports the mode setting selected for the dataset
- Is not in device down status
- Is not assigned to any partition
- Is not attached to another LPAR or Guest Virtual Machine if Autoattach is on or is attached to your LPAR or Guest Virtual Machine if Autoattach is off

Note:
When AVR finds the tape, BIM-EPIC assigns the drive to the partition running the job. To maximize performance, you must remove ASSGN statements from your JCL. See “Using LUB Allocation and the ASSGN Statement” for additional information on assignments and JCL.

Auto Stop

While scanning the drive, if AVR cannot find an appropriate tape, BIM-EPIC pauses the partition and waits for the interval specified by the AUTOSTP configuration option and then rescans the drive. This process is repeated at the interval specified by the AUTOSTP configuration option. If AVR still cannot find the appropriate tape after this process has

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completed, a mount message is sent to the operator. AVR puts the partition in a wait state until the operator responds.

Autoattach

Autoattach automatically attaches a tape drive to a Guest Virtual Machine (VM), and then AVR assigns the tape drive to the partition.

Autoattach adds two new commands to VM:

- VATTACH corresponds to the IBM ATTACH command.
- VDETACH corresponds to the IBM DETACH command.

BIM-EPIC issues these commands during AVR to search for the desired tape on a drive that VM owns. These commands differ from their IBM counterparts in the following ways:

- VDETACH detaches the tape drive without unloading the tape. This leaves the tape accessible for another AVR search.
- Both the VATTACH and VDETACH commands operate in silent mode. That is, they do not issue messages.

If you are using zVM release 4.2 or higher, these commands are not needed and, therefore, are not available.

Early Drive Release

At close, BIM-EPIC releases the tape drive assignment with Early Drive Release and if in a VM Autoattach environment, detaches the drive from the guest machine.

Early Drive Release and Autoattach are automatic. However, they are inhibited if you use alternate assignments.

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Managing Tape Volumes

Description

The BIM-EPIC tape initialization program, TSIDINIT, prevents initializing tapes with duplicate volume serial numbers and adds newly-acquired tape volumes to the DSN Catalog.

TSIDLBL creates gummed volume labels for your tapes.

Vault management facilities control tape vaulting functions.

Tape versions are added to the DSN Catalog automatically as you process datasets. In most circumstances, tapes do not need to be added manually. To add tapes to the DSN Catalog manually, use Online Manager or TSIDMNT ADD. You can also reinitialize tapes using TSIDINIT.

You can automatically migrate to cartridge tapes by specifying a cartridge density as the global default for all output tapes. Use the MODE configuration option to specify the default setting. See the *BIM-EPIC Installation and System Guide* for additional information on the MODE configuration option.

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Managing Disk Devices

Disk Pooling

BIM-EPIC uses disk pooling to make disk allocation more flexible and more efficient. The systems programmer defines disk pools to use in your installation. Disk pools can include one or more disk volumes. In addition, part of a volume can be allocated to a disk pool.

Each disk dataset must be assigned to a disk pool before allocation. Each time a dataset version is written, an allocation is made in that pool. Disk pools are referenced using a six-character pool name. However, the same pool can also be referenced by alias pool names. In addition, you can have CPU and partition-independent pool names. If these pools are defined, you can reference a partition independent pool by adding two dashes to the end of the name, for example, P O O L - -. For CPU and partition independent pools, add three dashes to the end of the name, for example, P O O L - - -.

Pool names are assigned to datasets using JCL or the DSN Catalog.

Leveling

Leveling reduces head contention by distributing allocations over the entire disk pool, rather than concentrating the allocations on a single volume. Each time a new extent is written, BIM-EPIC makes the allocation on the next volume in the pool sequence. To minimize disk fragmentation, leveling uses a “best fit” algorithm to allocate space. For example, you need to allocate 3,000 tracks. Pool disk 1 has 12,000 contiguous tracks, disk 2 has 5,000 contiguous tracks, and disk 3 has 4, 000 contiguous tracks. The allocation will be made on disk 3 since that is the “best fit.” If disk 1 is the only disk that has at least 3,000 contiguous tracks, the allocation will be made on disk 1. Leveling is activated for a disk pool when the pool is defined.

Offload Utilities

The BIM-EPIC offload utility moves datasets from disk to tape and back again. Processing is done logically, so you can use the offload utility for backup, to reorganize your disk space, or just to offload infrequently used datasets. BIM-EPIC automatically reloads to a temporary disk dataset whenever needed. For offload actions, the only restriction is that the offload utility processes be controlled sequential datasets. For backup actions, the offload utility also processes Start Track 1 sequential datasets.

VTOC Utilities

BIM-EPIC provides three utilities for displaying and updating VTOC entries:

- TSIDLVT lists VTOC entries in batch mode.
- TVTO, a CICS transaction, displays the entries online.
- TSIDVUT allows you to modify existing VTOC entries.

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Starting and Stopping Partitions

Description

You can stop a partition by entering STOP in response to most BIM-EPIC messages. To restart, submit the following command to the attention routine (AR).

```
MSG xx
```

where *xx* specifies the partition identifier, for example, BG, F1, F2.

Partitions can also be stopped and restarted at any time using VSE STOP and VSE START.

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Creating Reports

Description

BIM-EPIC programs provide a variety of reports describing tape and disk datasets, storage use, and job accounting.

You can create customized reports containing BIM-EPIC data from the DSN Catalog and the Recorder file. See “Customized Reports” for additional information.

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Activating BIM-EPIC

Description

BIM-EPIC is available for use if you have performed an IPL on your system or you have deactivated and reactivated BIM-EPIC. Unless specifically instructed not to activate in a particular partition, BIM-EPIC becomes functional when the first OPEN command is issued in the partition. BIM-EPIC does no processing until it is activated. This means that JCL enhancements, such as dataset definition statements, cannot be processed until BIM-EPIC is activated.

There is one exception to this rule. QDAS can always be active, whether BIM-EPIC is active or not. QDAS is described later in this document.

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Scratching or Deleting Datasets

Description

BIM-EPIC provides several methods for scratching datasets. Datasets can be scratched upon request using JCL, Online Manager, TSIDMNT, or TSIDUTL. Regardless of which method you use, the BIM-EPIC scratch process performs the same actions.

When BIM-EPIC scratches a disk dataset, three events occur:

- BIM-EPIC deletes the VTOC entry.
- The disk space is made available for reuse.
- The DSN Catalog entry for that version is deleted.

For tapes that contain only one dataset, the tape volume is made eligible for reuse immediately (scratched). For multi-dataset tapes, the tape volume is not scratched until all of the datasets on it have been scratched. The dataset version entry in the DSN Catalog is changed to scratch status; however, the version entry is not deleted. If the BIM-EPIC dataset definition (EDD) still exists, the scratched version record remains in the DSN Catalog. When the tape is made eligible for reuse, a scratched dataset can be retained or re-activated as a version.

For both tape and disk, only the version record is affected in normal scratch processing. However, an EDD can be deleted from the DSN Catalog using the DELETE function or the PURGE function.

- DELETE scratches all versions and VTOC entries but does not remove tape volumes from the DSN Catalog.
- PURGE scratches all versions and VTOC entries and removes tape volumes from the DSN Catalog.

When deleting (not purging) a tape version, the record is moved to the definition name ** DSN DELETED **.

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BIM-EPIC Job Control Language

Using Job Control Language (JCL)

Description

BIM-EPIC changes the way you use job control language (JCL) and offers many enhancements to standard VSE job controls. However, BIM-EPIC may require some changes in order to function properly.

Physical Input/ Output Control System

Programs that use physical input/output control systems (PIOCS) cause conflicts with tape and disk management programs.

Physical IOCS (PIOCS) programs can cause conflicts because they often do not follow most logical IOCS program conventions. For example, PIOCS programs perform pre-open checking to determine the type of device to use to process a dataset before the dataset can be opened or before BIM-EPIC can make the assignment. Most PIOCS programs do not update the DTF with block size, record size, record count, and address of the last record written. Therefore, BIM-EPIC cannot find the necessary information describing the dataset at end-of-volume/extent or close.

However, processing controlled datasets with PIOCS is not difficult. It requires some special definitions in the JCL and, in some cases, special settings in the BIM-EPIC dataset definition (EDD). See “Physical IOCS Processing” for additional information.

Cancel Status

When a version record is opened, the descriptive data is entered into the DSN Catalog and the entry is set to open status. When a version record is closed, BIM-EPIC updates the version record and indicates that the version has been closed and is now active/available for use as input.

If the job cancels before a version is closed, the version remains in open status. Open versions cannot be used as input and become eligible for scratch differently than closed versions. Open Status Generation datasets become eligible for scratch according to the time limits set for the TSIDUTL SCRATCH parameters THLDOPEN and DHLDOPEN. The default is to scratch open disk datasets after two days and tape datasets after one day. Non-generation datasets are automatically scratched the next time an output version is created. You can also use BIM-EPIC JCL options to delete non-generation disk datasets immediately if a job cancels.

If a dataset successfully closes before the job cancels, the dataset becomes an active version and is handled as if the job processed normally.

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Depending on the processing situation, it may or may not be desirable to manually scratch the version.

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Using Job Control Language Options

Description

Because BIM-EPIC offers DLBL, TLBL, and DD JCL options which VSE cannot process, BIM-EPIC processes these options and then generates the required VSE label information before providing the JCL statement to VSE for processing.

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BIM-EPIC Tape Processing

Using Tape Processing

Description

Open processing, end-of-volume processing, and close processing are the most significant BIM-EPIC processing periods. In each case, processing is different for tape than for disk.

Open Processing

Open processing is the most important processing period. When a tape dataset is opened, BIM-EPIC carries out the following tasks:

- BIM-EPIC checks the JCL and DSN Catalog to determine if the dataset is tape or disk.
- BIM-EPIC determines whether the dataset is controlled. If the dataset is controlled, BIM-EPIC reads the catalog entry to determine how to process the version. If the dataset is not controlled, BIM-EPIC passes control to VSE immediately.
- BIM-EPIC performs Automatic Volume Recognition (AVR) processing by searching available drives for the correct input tape or for a BIM-EPIC scratch tape for output.
- If BIM-EPIC does not find an appropriate tape, BIM-EPIC issues a message to the operator and waits for an operator response.
- When the tape is found, BIM-EPIC assigns the drive to the requesting partition. If Autoattach is active, BIM-EPIC attaches the drive to the VSE Guest.
- BIM-EPIC updates the DSN Catalog, creating a dataset definition if automatic cataloging is required and records information about the version being created. If OPEN is for Output, the version is placed in open status.
- BIM-EPIC updates the VSE Label Area. On input, BIM-EPIC clears the dataset name from the label and substitutes the correct volume serial number. On output, BIM-EPIC adds a period (.) in the VOL1 Label Area to mark the tape as a BIM-EPIC tape. BIM-EPIC then writes a 99365 expiration value in the HDR1 label to protect the tape against accidental overwrites.
    - BIM-EPIC passes control to VSE before the dataset is written. VSE then uses the information in the VSE Label Area to process the dataset.

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End-of-Volume Processing

BIM-EPIC performs similar steps for end-of-volume (EOV) processing as those performed for open processing. When performing EOV processing, BIM-EPIC gains control and then passes control to VSE. To perform EOV processing, BIM-EPIC carries out the following tasks:

- BIM-EPIC releases the most recent drive assignment. If Automatch is active, BIM-EPIC detaches the drive from the VSE machine.
- BIM-EPIC performs Automatic Volume Recognition (AVR) for the next volume.
- If BIM-EPIC cannot locate the next volume, it issues a message to the operator.
- When the tape is mounted on an available drive, BIM-EPIC assigns and attaches the drive.
- BIM-EPIC updates the DSN Catalog. On output, BIM-EPIC writes another volume record for the version, places that volume in open status, and places the previous volume into conditional catalog status. On input, BIM-EPIC updates the date last accessed, use count, and other statistical information.
- BIM-EPIC passes final control to VSE.

Close Processing

When BIM-EPIC is invoked for close processing, it passes instructions to VSE for positioning the tape. In addition BIM-EPIC performs the following tasks:

- BIM-EPIC releases the drive assignments. If Autoattach is active, BIM-EPIC detaches the drive from the VSE guest.
- BIM-EPIC writes to the DSN Catalog, placing all volumes in a closed status, if the version is an output version.
- BIM-EPIC passes control to VSE.

Positioning options are: unload the tape, rewind the tape, or leave the tape in place.

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BIM-EPIC Disk Processing

Using Disk Processing

Description

The tasks performed for disk open, close, and end-of-extent processing are similar to the tasks performed for tape processing. For disk processing, BIM-EPIC must make the space allocation, which is more complicated than finding the correct tape volume.

Quick Disk Allocation (QDAS)

During every open process, VSE reads the VTOC sequentially, which can require thousands of I/O operations. BIM-EPIC provides the Quick Disk Allocation System (QDAS) which dramatically decreases the time required to allocate an output dataset.

QDAS maps disk volume free space to virtual storage. One map is created for each QDAS-controlled volume when the BIM-EPIC is initialized. When disk space is used or freed for any controlled dataset or uncontrolled dataset, QDAS updates the map in storage.

Note:
QDAS updates the maps only when the VTOCs of the disk volumes under its control are updated using the VSE common VTOC handler ($IJJHCVH). Programs that update the VTOC directly may bypass the QDAS interface and cause the maps to get out of sync with the VTOC. This applies to a very limited number of programs, such as DITTO. However, should this condition occur, you can refresh the QDAS map tables at any time. See Chapter 4 of the *BIM-EPIC Installation and System Guide* for additional information.

Because QDAS maps free space, you must refresh the map tables daily to reallocate the space made available by expired Start Track 1 files. This refresh is not necessary if the disk files are catalog controlled. It is recommended that this procedure be performed as part of the BIM-EPIC daily maintenance procedures which should occur after midnight. See the *BIM-EPIC Installation and System Guide* for additional information.

The following events occur on output.

- BIM-EPIC locates the pool where the dataset is assigned. For cataloged datasets, BIM-EPIC locates the pool in the DSN Catalog entry. For Start Track 1 datasets, BIM-EPIC locates the pool in the JCL EXTENT statement.
- If the dataset is non-generation, BIM-EPIC deletes the old version from the VTOC. For cataloged datasets, a new version is

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created. in the DSN Catalog and on the VTOC. For Start Track 1 datasets, BIM-EPIC must read each VTOC in the pool until the old dataset is located.

- BIM-EPIC decides which pool volume to allocate. BIM-EPIC checks the VTOC or QDAS map for a free extent with sufficient space. If BIM-EPIC cannot locate sufficient space in the pool for the extent, it issues a message and waits for a response from the operator.
- BIM-EPIC updates the VSE Label Area, creating an extent and assigning the disk volume.

The following events occur on input.

- BIM-EPIC locates the dataset. For cataloged datasets, BIM-EPIC locates the dataset's location allocation in the DSN Catalog. For Start Track 1 datasets, BIM-EPIC reads each VTOC in the pool until it finds the first extent of the dataset. Depending on how many VTOCs must be read, this process can involve a large amount of I/O.
- BIM-EPIC updates the VSE Label Area, creating an extent and assigning the disk volume.

It is strongly recommend that you use cataloged datasets instead of Start Track 1 datasets. Cataloged dataset processing is more efficient than Start Track 1 processing. Although BIM-EPIC must write to the DSN Catalog each time it accesses a cataloged dataset, BIM-EPIC uses far fewer I/O operations than would be required to read all the VTOC entries in the disk pool. In general, if you want to use Start Track 1 datasets, consider doing so only for disk pools that contain fewer than three volumes.

Space Holder Records

Each time BIM-EPIC allocates an extent for a dataset, BIM-EPIC writes a VTOC entry called a Space Holder record. Space Holder records prevent the same space from being used when allocating another BIM-EPIC dataset. The VTOC entry for a Space Holder record contains the name of the dataset with a right parenthesis substituted for the first letter, for example,)ATASET.NAME for DATASET.NAME. The entry is written with the current date as the expiration date.

Close Processing provides additional detail on Space Holder record usage.

Close Processing

When a program requests close processing for a dataset, some records may remain in the buffer. These records are written to disk when VSE closes the dataset. In some cases, there are too many records in the buffer to fit in the space remaining in the current extent. When this occurs, another extent is necessary to accommodate the excess records.

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When BIM-EPIC closes a dataset, it takes the buffer size into account. Using the buffer size and the amount of space left in the extent, BIM-EPIC determines if another extent is needed. If another extent is needed, BIM-EPIC makes the allocation.

If VSE runs out of space when writing the buffered records, BIM-EPIC checks the VSE Label Area for another extent. If an extent is not there, BIM-EPIC will cancel the job. With BIM-EPIC, VSE finds the Space Holder extent that BIM-EPIC placed there. VSE then reads the VTOC, finds an expired dataset, and replaces the)DATASET VTOC entry using the correct dataset name.

If the Space Holder extent is not necessary, the VTOC entry remains as a Space Holder record. Since the entry indicates the dataset is expired, the space can be used for any uncontrolled dataset at any time. BIM-EPIC reuses Space Holder extents on an as-needed basis.

You may see Space Holder records in your VTOC listings. You may also see an extra extent in the DSN Catalog entry for the version. Neither of these conditions adversely affects processing.

When closing an output disk dataset, BIM-EPIC:

- Determines whether the previously-described Space Holder extent is required. If the Space Holder is required, a precautionary extent is required. BIM-EPIC writes the Space Holder record, updates the VSE Label Area with the new extent information, and writes the extent information into the DSN Catalog entry for the version.
- Places the version in closed status in the DSN Catalog.
- Passes control to VSE.

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2

BIM-EPIC Online Manager

This chapter describes the BIM-EPIC Online Manager.

Chapter Contents

Using Online Manager
Configuring Online Manager
Managing Dataset Versions
Retaining and Scratching Datasets

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Using Online Manager

Cataloging Manually

Description

There are several reasons for performing manual DSN cataloging and catalog management instead of using automatic cataloging. Automatic cataloging is global in scope, so it will not match the exact requirements of all datasets. You may want to:

- Ensure that precise catalog defaults are established before the dataset is written for the first time
- Update a definition after it is created in a job
- Change the requirements for a dataset as the result of changes in government regulations or data center procedures

BIM-EPIC provides Online Manager for manual DSN cataloging and maintenance. Online Manager, a panel–driven GSS system uses fill–in–the–blank formats that leads you step–by–step through the catalog management tasks.

BIM-EPIC also provides TSIDMNT, a batch catalog management program. You can use TSIDMNT for batch cataloging of new datasets and versions, for updating fields in existing dataset entries, and for DSN Catalog reporting. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for additional information describing TSIDMNT.

BIM-EPIC programs do not require leading zeros. Numeric values are automatically zero–filled on the left. However, when using Online Manager and TSIDMNT, you can suppress the zero–fill by entering a volume serial number as a six–character string with blanks on the right, for example, "12 " would be a valid character string.

Using BIM-EPIC with CA-EPIC

If you run both BIM-EPIC and CA-EPIC for CMS and share a DSN Catalog on VSE, you can update tape datasets from your CMS machine. You can also scratch tapes used for CA-EPIC for CMS backup/archive datasets.

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Using Online Manager

Description

You can access Online Manager using several methods. The following describes the various methods of access.

Method of Access	Description
CICS	You can access Online Manager with a CICS EPIC transaction. See the *BIM-EPIC Installation and System Guide* for information on installing the CICS transaction. If online access is done solely through BIM-FAQS/ASO or CA-FAQS/ASO, installing the CICS transaction is not required.
BIM-FAQS/ASO	If BIM-FAQS/ASO or CA-FAQS/ASO is installed and BIM-EPIC is defined to it, you can access Online Manager by entering EPIC from any FAQS/ASO command line. If online access is through BIM-FAQS/ASO or CA-FAQS/ASO, you do not need to install the CICS transaction.
CA-EPIC-CMS	When using CA-EPIC for CMS, you can access Online Manager by entering EPICCMS from CMS. See the CA-EPIC documentation for additional information.
VTAM	See the *BIM-EPIC Installation and System Guide* for information on accessing Online Manager as a VTAM APPLID.

Primary Option Menu

When you access Online Manager, the Primary Option Menu panel displays. The following is an example of the Primary Option Menu panel:

```
OPTION  ===>


        OPTION    COMMAND     DESCRIPTION

          M       MANAGE      Search and manage BIM-EPIC Catalog
          D       DEFINE      Define BIM-EPIC dataset (EDD)
          S       SYSTEM      Manage BIM-EPIC system configuration
          P       PROFILE     Manage BIM-EPIC user profiles
          C       CAPACITY    Display BIM-EPIC Catalog statistics

          H       HELP        Learn about online help
          X       EXIT        Exit BIM-EPIC


 F1=Help  F3=Return  F5=Recall  F12=Exit
```

Using Online Help

Online Manager provides several Help options. Select H (Help) on the Primary Option menu for information describing each feature. You can access online help at anytime by pressing F1.

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Exiting Online Manager

To exit an online session, select X (Exit) from the Primary Option menu.

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Executing Management Commands

Description

You can execute TSIDMNT commands in command mode, while using Online Manager panels for your catalog management.

Procedure

To execute TSIDMNT commands:

1	Place the cursor in the panel command area.
2	Type **EPIC** followed by a space.
3	Place the cursor in the panel command area.
4	Type the normal TSIDMNT command syntax.

See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for command formats.

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Configuring Online Manager

Maintaining User Profiles

Description

To customize the display for dataset definitions and version information, the Online Manager provides two default profiles containing display layouts and confirmation options.

- $DEFPROF provides layouts that apply to all users who are not specifically defined to Online Manager.
- $EPIC provides a fixed-standard layout.

You can use either default profile as your model. After selecting the model, select a name for the new profile and modify the characteristics of the new profile, as needed. Whenever you model an existing user profile, the attributes of the new profile can be modified. However, this terminates the ability to inherit attributes from the model if it is changed at a later time.

Procedure

To access a user profile:

Step	Action
1	Open the Primary Options panel.
2	Type **P** (Profile).
3	Press Enter to open the User Profiles panel.

Note:
You can also access user profiles from the command line on most panels by typing PROFILE and pressing Enter.

User Profiles Panel

The following is an example of the User Profiles panel.

```
TSIO0300.0 ----------- BIM-EPIC - User Profiles ---------------- USER=SJA

COMMAND ===>
 The SJA profile has been added using the $EPIC profile as a model.


    Profile    (MODEL)      Profile    (MODEL)      Profile    (MODEL)

  _ $DEFPROF              _ $EPIC                _ SJA        $EPIC



 Active Profile:  $DEFPROF


 A = Activate   L = Delete   M = Model   U = Update
 F1=Help  F3=Return  F5=Recall  F6=Add  F12=Exit
```


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From the User Profiles panel, you can create and modify user profiles to display different formats and confirmation options.

Definitions

The following describes the profiles displayed in the User Profiles panel.

User ID	Definition
$DEFPROF	Provides layouts that apply to all users who are not specifically defined to Online Manager.
$EPIC	Unsecured profile. $EPIC, which cannot be modified, is provided by the Online Manager to use as a model. After $DEFSEC is secured, you can grant total system access to selected users by modeling their user profiles after $EPIC. Profiles modeled on $EPIC can be modified to create custom security profiles. To prevent unauthorized access to the Online Manager, you cannot use $EPIC as a user ID. Use caution when modeling user profiles after $EPIC and leaving the user profiles unmodified. If the user profiles are left unmodified, a user can obtain the profile name and use it to obtain total system access.
SJA	SJA is an example of an unsecured profile that was modeled after $EPIC.

Procedures

To create a copy of $EPIC or any other existing profile, from the User Profiles panel:

Step	Action
1	Open the Primary Options panel.
2	Type **P** (Profile).
3	Press Enter to open the User Profiles panel.
4	Tab to the user profile you want to copy (model).
5	Type **M** (Model).
6	Press Enter to return to the command line.
7	Enter a unique name for the new user profile.
8	Press Enter.

Once you have created a copy of an existing profile, you are ready to update the new profile with the new user information. To complete the update process, you will need to complete three User Profile Definition panels. These panels are:

- Modify EDD Display
- Modify Version Display
- Modify Profile Defaults

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Customizing Dataset Screen Displays

Description

The Modify EDD Display panel provides the options that enable you to customize the screen display for BIM-EPIC dataset definitions (EDDs). The Current Display Order area provides the following options:

- F (Following) moves a field after another field.
- M (Move) moves a field to a new location.
- P (Preceding) moves a field before another field.
- R (Remove) removes a field from the display.

Procedure

To access the Modify EDD Display panel:

Step	Action
1	Open the Primary Options panel.
2	Type **P** (Profile).
3	Press Enter to open the User Profiles panel.
4	Tab to the profile you want to modify.
5	Type **U** (Update).
6	Press Enter to open the Modify EDD Display panel.

Modify EDD Display Panel

The following is an example of the Modify EDD Display panel.

```
TSIO0301.u ------ BIM-EPIC - User Profile Definition -----------  USER=SJA
COMMAND ===>
 The SJA profile is modeled after $EPIC.
                        ** MODIFY EDD DISPLAY **

CURRENT DISPLAY FORMAT                                          More: +>

 Dataset Name              Cyc Reten  DLA ----- Attributes ------ GEN or
  Width ===> 25                           Lock Rel Rev Unlbl NSub  WRK


CURRENT DISPLAY ORDER   Profile: SJA       Model: $EPIC

  _  1 Cyc          _  2 Reten        _  3 DLA          _  4 Attributes
  _  5 GEN or WRK   _  6 Tape Pool    _  7 Tape Mode    _  8 Vault Method
  _  9 Prime Dataset _ 10 Owner ID    _ 11 AGP          _ 12 Alloc Req
  _ 13 SYSnnn       _ 14 Reblock Value _ 15 Comment     _ 16 User ID
  _ 17 System ID    _ 18 Last Output  _ 19 Create Date  _    Disk Pool
  _    Primary Alloc _    Sec Alloc    _    Max Sec



 F = Following   M = Move   P = Preceding   R = Remove
 F1=Help  F3=Return  F6=Update  F8=Fwd  F11=Right  F12=Exit
```

You can use function keys to perform certain tasks.

If you need to…	Press
access the online help for additional information	F1

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If you need to…	Press
return to the previous panel	F3
accept the new display order	F6
scroll to additional User Profile Definition panels	F8
move one panel right	F11
exit	F12

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Customizing Version Displays

Description

The Modify Version Display panel provides the options that enable you to customize the screen display for BIM-EPIC dataset versions. The Current Display Order area provides the following options:

- F (Following) moves a field following another field.
- M (Move) moves a field to a new location.
- P (Proceeding) moves a field to precede another field.
- R (Remove) removes a field from the display.

Procedure

To access the Modify Version Display panel:

Step	Action
1	Open the Primary Options panel.
2	Type **P** (Profile).
3	Press Enter to open the User Profiles panel.
4	Tab to the profile you want to modify.
5	Type **U** (Update) to display the User Profile Definition, Modify EDD Display panel.
6	Press Enter to open the User Profile Definition, Modify EDD Display panel.
7	Press F8 to display the User Profile Definition, Modify Version Display panel.

Modify Version Display Panel

The following is an example of the Modify Version Display panel.

```
TSIO0302.8 ------ BIM-EPIC - User Profile Definition -----------  USER=SJA
COMMAND ===>

                        ** MODIFY VERSION DISPLAY **

CURRENT DISPLAY FORMAT                                          More: -+>

 Dataset Name              Version Number-of First  --- Creation ---
  Width ===> 25                    Vols/Exts Volser Date        Time


CURRENT DISPLAY ORDER   Profile: SJA        Model: $EPIC

  _  1 Version       _  2 Exts/Vols     _  3 First Volser  _  4 Create Date
  _  5 Create Job    _  6 Expire Date   _  7 Gen Number    _  8 Status
  _  9 Last Acc Info _ 10 Media Type    _ 11 Attributes    _ 12 Extent Info
  _ 13 File Seq      _ 14 Vault Method  _ 15 Slot          _ 16 Blocks
  _ 17 Block Size    _ 18 Record Size   _ 19 Tape Pool     _ 20 Tape Mode
  _ 21 GEN or WRK    _ 22 SYSLOG ID     _ 23 CPU ID        _ 24 Reel
  _    Create Info   _    Last Acc Date _    Last Acc Job  _    Reten Info
  _    Reten         _    Cyc           _    DLA           _    Last Backup

 F = Following   M = Move   P = Preceding   R = Remove
 F1=Help  F3=Return  F6=Update  F7=Bkwd  F8=Fwd  F11=Right  F12=Exit
```


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You can use function keys to perform certain tasks:

If you need to…	Press
access the online help for additional information	F1
return to the previous panel	F3
accept the new display order	F6
scroll back to the Modify Version Display panel	F7
scroll to the Modify Profile Defaults panel	F8
move one panel left	F10
move one panel right	F11
exit	F12

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Customizing Profile Defaults

Description

The Modify Profile Defaults panel provides options that enable you to customize certain profile defaults. Use the Modify Profile Defaults panel to enable or disable confirmation prompts to a variety of BIM-EPIC functions and to change the default level for a catalog search.

Note:
The $EPIC default profile always requests confirmation.

Procedure

To access the Modify Version Display panel:

Step	Action
1	Open the Primary Options panel.
2	Type **P** (Profile).
3	Press Enter to open the User Profiles panel.
4	Tab to the profile you want to modify.
5	Type **U** (Update) to display the User Profile Definition, Modify EDD Display panel.
6	Press Enter to open the User Profile Definition, Modify EDD Display panel.
7	Press F8 to display the User Profile Definition, Modify Version Display panel.
8	Press F8 to display the User Profile Definition, Modify Profile Defaults panel.

Modify Profile Defaults Panel

The following is an example of the Modify Profile Defaults panel.

```
TSIO0303.8 ------ BIM-EPIC - User Profile Definition -----------  USER=SJA
COMMAND ===>

                      ** MODIFY PROFILE DEFAULTS **
                                                                  More: -
Profile: SJA        Model: $EPIC

       CONFIRMATION SETTINGS                LEVEL FOR CATALOG SEARCH

  Add Ver  ===> Y  Clean    ===> Y        Level ===> E  E = EDD
  Close    ===> Y  Cycle    ===> Y                      V = Version
  Define   ===> Y  Delete   ===> Y                   ( X = Exploded list )
  Lock     ===> Y  MCatalog ===> Y
  Move     ===> Y  Purge    ===> Y
  Release  ===> Y  Rename   ===> Y
  Retain   ===> Y  Scratch  ===> Y            SYSTEM PASSWORD PROMPT
  Sys Opts ===> Y  Transfer ===> Y
  Unlock   ===> Y  Update   ===> Y        Prompt on initial entry ===> Y




 F1=Help  F3=Return  F6=Update  F7=Bkwd  F12=Exit
```


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You can use function keys to perform certain tasks:

If you need to…	Press
access the online help for additional information	F1
return to the previous panel	F3
accept the new display order	F6
scroll back to the Modify Version Display panel	F7
exit	F12

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Using Online Manager Help

Description

The Online Manager provides online help in several formats. These formats include:

- Panel Help
- Field Help
- Command Help
- Panel Help—Navigation
- Panel Help—General

Procedure

To access a specific Help format:

Format	Method
Help for Help	Select the H (Help) option on the Primary Option menu to obtain a description of the Help system.
Panel Help	Press F1 at the command line at anytime to display panel-specific help.
Field Help	Place the cursor at the beginning of any input field and press F1 to display field-specific help.
Command Help	The **CMDHELP** at the command line on any panel to view a list of help topics that explain BIM-EPIC management commands.
Panel Help—Navigation	Online Manager provides help that explains panel navigation. To view a diagram of the panel system: 1. Open the desired panel. 2. Type **EPICFLOW** at the command line. 3. Press Enter.
Panel Help—General	The Online Flow panel displays along with a highlighted path showing the path you took to get to the current location.To access help for any panel on a diagram: 1. Open the Online Flow panel. 2. Type the panel ID at the command line. 3. Press Enter.

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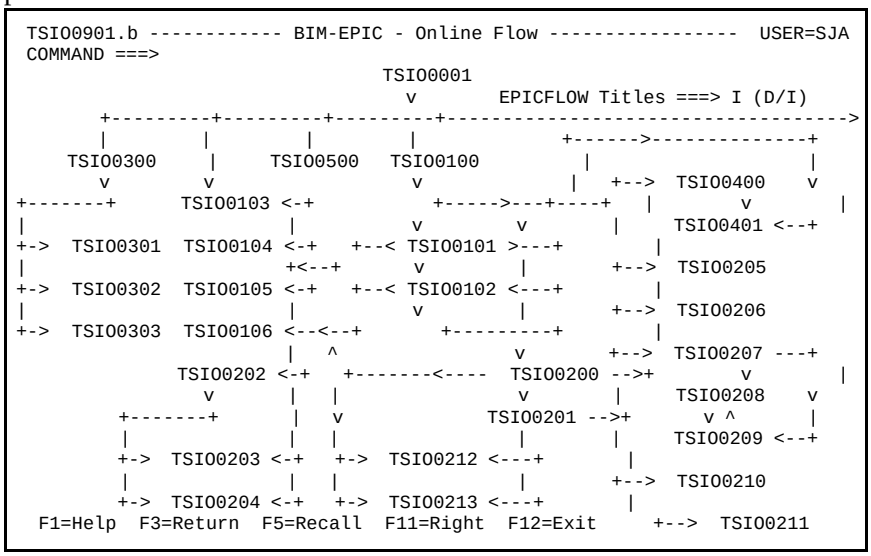
Panel IDs Display (I)

The following is an example of the Online Flow display showing the panel IDs.



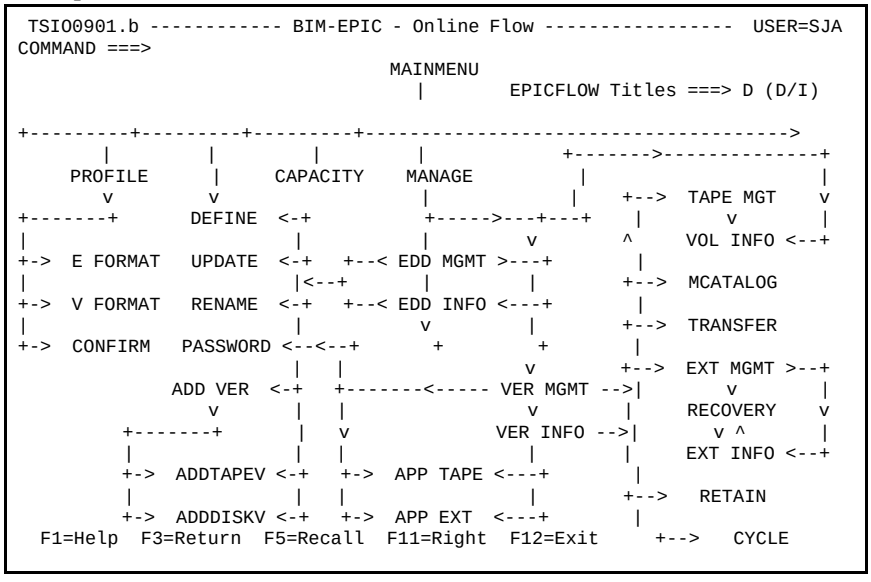
Procedure

To view an Online Flow in terms of its panel functions:

Step	Action
1	Open the desired panel.
2	Place the cursor at the command line and type **EPICFLOW**.
3	Tab to the EPICFLOW Titles field.
4	Type **D** (Descriptions) in the EPICFLOW Titles field.
5	Press Enter.

Panel Descriptions Display (D)

The following is an example of the Online Flow display showing descriptions.



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Searching for Dataset Definitions

Description

You can use the Search Catalog panel to search for a BIM-EPIC dataset definition (EDD) in the DSN Catalog. You can search using the following criteria:

- Dataset name–displays the dataset
- Part of dataset name with the last character an asterisk (*)–displays all dataset names beginning with the characters preceding the asterisk
- Asterisk (*)–displays all DSNs in the catalog
- Tape pool ID–displays tape pool IDs matching search criteria
- Two-character user–defined user ID (not your system USERID)
- Two-character user–defined system ID (not the SMFID)

In addition, you can use the Manage EDDs panel to view, modify, or update dataset definitions.

Procedure

To display the Search Catalog panel:

Step	Action
1	Open the Primary Option menu.
2	Tab to M (Manage).
3	Press Enter to open the Search Catalog panel.

Search Catalog Panel

The following is an example of the Search Catalog panel.

```
TSIO0100.M ---------- BIM-EPIC - Search Catalog ---------------  USER=SJA
COMMAND ===>
  Specify a dataset/token or volser.

    CATALOG SEARCH
    Name   ===> ____________________________________________
    Level  ===> E       E = EDD
      or                V = Version ( X = Exploded List )
    Volser ===> ______

    DISPLAY FORMAT
    Active Profile ===> $DEFPROF (1-8 characters)
    Profile Level  ===> _         E = EDD
                                  V = Version
                                  C = Confirmation


    EDD FILTERS                         VERSION FILTERS
    User ID   ===> __  (2 chars)        Tape or Disk ===> _      (T/D)
    System ID ===> __  (2 chars)        Scratched    ===> _      (Y/N)
    Tape Pool ===> __  (0-9 or A-Z)     Create Job   ===> ________


 F1=Help  F3=Return  F5=Recall  F12=Exit
```


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Procedure

To search for dataset definitions in the DSN Catalog:

Step	Action
1	Type a fully or partially qualified dataset name in the Name field. If you specify a partial dataset name, all EDDs containing that name criteria will display. You can use an asterisk (*) to substitute dataset levels or a question mark (?) to substitute an individual character.
2	Type **E** or **X** in the Level field to view selected EDDs. If you want more specific search criteria, use the EDD filters at the bottom of the panel.
3	Press Enter to open the EDD matching your search criteria.
4	Press F3 to exit the Search Catalog panel without listing the EDDs.

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Managing Dataset Definitions

Description

The Manage EDDs panel lists BIM-EPIC dataset definitions (EDDs) matching the dataset name or expression you entered in the Search Catalog panel. From the Manage EDDs panel, you can perform any of the following tasks:

- Select a dataset definition to display
- Select a dataset definition to update
- Delete a dataset definition
- Lock a dataset definition
- Purge a dataset definition
- Release a dataset definition
- Unlock a dataset definition
- Request a list of dataset definition versions

Procedure

To access the Manage EDDs panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type one of the following in the Name field: ■ Dataset name to display a specific dataset ■ Part of a dataset name with an asterisk as the last character to display all dataset names beginning with the characters preceding the asterisk ■ * to display all DSNs in the catalog
5	Press Enter to display a list of dataset definition names.

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Manage EDDs Panel

The following is an example of the Manage EDDs panel.

```
TSIO0101.Z ----------- BIM-EPIC - Manage EDDs -----------------  USER=SJA

COMMAND ===>
                                                                More: >

  Dataset Name               Cyc Reten  DLA ----- Attributes ------ GEN or
   Width: 25                                Lock Rel Rev Unlbl NSub  WRK

_ BATCH CONVERT OUT           1     0    0  N    N   N    N    N    GEN
_ BILL BACKUP                 4     0    0  N    N   N    N    N    GEN
_ BILL.REPRINT.FILE           2     0    0  N    N   N    N    N    GEN
_ BILLING.PAN.ORDER           1     0    0  N    N   N    N    N    GEN
_ BILRECS BKUP TAPE          60     0    0  N    N   N    N    N    GEN
_ BLS.REC                     6     0    0  N    N   N    N    N    GEN
_ BUD.ACASH.BKUP              1     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP              3     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP1             3     0    0  N    N   N    N    Y    GEN


 A = Add-Ver C = Close F = Release I = Info   J = Lock  K = Unlock  L = Delet
 M = Model   P = Purge R = Rename  U = Update V = Versions ( X = Exploded Lst
 F1=Help  F3=Return  F5=Recall  F11=Right  F12=Exit
```

Procedure

To manage a dataset entry:

Step	Action
1	Locate the dataset name you want to manage.
2	Type the letter of the command you want to execute in front of the dataset name. You can enter commands for as many entries as you want. **Note:** The valid commands are listed at the bottom of the Manage EDDs panel.
3	Press Enter to execute the command(s).
4	Press F3 to exit without executing the command(s).

Using TSIDMNT DISPLAY

BIM-EPIC also provides TSIDMNT DISPLAY to list dataset definitions. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using DISPLAY.

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Displaying a Dataset Definition

Description

The EDD Information panel displays the BIM-EPIC dataset definition (EDD) attributes. You can update the attributes or create a new definition based on the displayed dataset definition.

Procedure

To display the EDD Information panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type one of the following in the Name field: ■ Dataset name to display a specific dataset ■ Part of a dataset name with an asterisk as the last character to display all dataset names beginning with the characters preceding the asterisk ■ * to display all DSNs in the catalog
5	Press Enter to produce a list of dataset definition names.
6	Tab to the dataset definition name you want to display.
7	Type **I** (Information) in front of the selected dataset definition.
8	Press Enter to open the EDD Information panel.

EDD Information Panel

The following is an example of an EDD Information panel.

```
TSIO0102.G ---------- BIM-EPIC - EDD Information -------------- USER=SJA
 COMMAND ===>

 ( _ ) Dataset: BATCH CONVERT OUT

    TAPE INFORMATION           DATASET INFORMATION
    TPAdev: N  Mode: NO        GEN or WRK: GEN   BLKSZ:       OPT
    Tape Pool:    .            Reten:      0     Create Date: 01/31/1997
    Vault Method: 0            Cycles:     1     Last Output: 08/01/1997
    Owner ID:     .            DLA:        0     System ID:   .
    Tape Size:    LARGE        SYSnnn:     0     User ID:     .

    DISK INFORMATION           DATASET ATTRIBUTES
    Disk Pool:    DISK02       Prime:      Y     Revolving:   N
    Primary:      50           Locked:     N     Unlabeled:   N
    Secondary:    25           Newsub:     N     Released:    N
    Max Sec:      255          Pswd Prot:  N
    Primary ALR:  -
    Auto Purge:   N            Comment:    .
                               Prime DSN:  .

  A = Add-Ver C = Close F = Release J = Lock   K = Unlock     L = Delete
  M = Model   P = Purge R = Rename  U = Update V = Versions ( X = Exploded
  F1=Help  F3=Return  F5=Recall  F12=Exit
```


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Using TSIDMNT DISPLAY

BIM-EPIC also provides TSIDMNT DISPLAY to list dataset definitions. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using DISPLAY.

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Creating a Dataset Definition

Description

The Define an EDD panel allows you to create a new BIM-EPIC dataset definition (EDD). If you are using a modeled dataset, the attributes on the Define an EDD panel are the attributes of the modeled dataset.

Procedure

To display the Define an EDD panel:

Step	Action
1	Open the Primary Option menu.
2	Type **D** (Define).
3	Press Enter to open the Define an EDD panel.

You can display the Define an EDD panel from the Manage EDDs panel or from the EDD Information panel. To display the Define an EDD panel from the Manage EDDs panel or from the EDD Information panel:

Step	Action
1	Open the Manage EDDs panel or the EDD Information panel.
2	Type **M** (Model) in front of the selected dataset definition to obtain the most definitions or complete the necessary fields to produce a more concise search results list of definitions.
3	Press Enter to open the Define an EDD panel.

Define an EDD Panel

The following is an example of a Define an EDD panel.

```
TSIO0103.D ---------- BIM-EPIC - Define an EDD ----------------  USER=SJA
COMMAND ===>


  DEFINE

  Dataset ===> ____________________________________________
  Model   ===> ____________________________________________

  TAPE INFORMATION     DISK INFORMATION          DATASET INFORMATION
  TPAdev: N  Mode: __  Disk Pool   ===> ______   GEN or WRK     ===> ___
  Tape Pool  ===> __   Primary     ===> _______  Retention      ===> ____
  Vault Meth ===> ___  Secondary   ===> _______  Cycles         ===> ___
  Owner ID   ===> __   Max Sec     ===> ___      DLA            ===> ____
  Unlabeled  ===> _    Primary ALR ===> _______  BLKSZ( _ CISZ) ===> _____
  Tape Size  ===> _    Auto Purge  ===> _        SYSnnn         ===> ___
  Revolving  ===> _                              System ID      ===> __
                                                 User ID        ===> __
  Comment   ===> _______________________________ Password       ===>
  Prime DSN ===> ________________                Encrypt Key    ===>



F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

To create a new EDD from scratch:

Step	Action
1	Open the Define an EDD panel.

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Step	Action
2	Type a dataset name in the Dataset field. BIM-EPIC uses the dataset name as the key to locate a record in the DSN Catalog. Therefore, the dataset name must be unique. Use the Model field when you are defining a new dataset and want to model the new dataset after a previously defined dataset.
3	Update the dataset attributes. **Note:** Any changes you make on the Create an EDD panel override modeled attributes.
4	Press Enter to create the new EDD. Default values are added and all data fields are verified for syntactic correctness.
5	Press F3 to exit without creating a new EDD.

Using TSIDMNT CATALOG

BIM-EPIC also provides TSIDMNT CATALOG to create EDDs. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using CATALOG.

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Updating a Dataset Definition

Description

Online Manager provides the Update an EDD panel to enable you to modify BIM-EPIC dataset definitions (EDDs). The attributes displayed on this panel are defaults for all output datasets using the dataset name. Modifications affect subsequent versions only.

Procedure

To display the Update an EDD panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel
4	Type one of the following in the Name field: ■ Dataset name to display a specific dataset ■ Part of a dataset name with an asterisk as the last character to display all dataset names beginning with the characters preceding the asterisk ■ * to display all DSNs in the catalog
5	Press Enter to open the Manage EDDs panel
6	Tab to the name of the dataset definition name you want to update.
7	Type **U** (Update) next to the name of the dataset definition you want to update.
8	Press Enter to open the Update an EDD panel.

Update an EDD Panel

The following is an example of an Update an EDD panel.

```
TSIO0104.e ----------- BIM-EPIC - Update an EDD ----------------  USER=SJA
COMMAND ===>


  UPDATE

  Dataset: BATCH CONVERT OUT

  TAPE INFORMATION     DISK INFORMATION          DATASET INFORMATION
  TPAdev: N  Mode: NO  Disk Pool   ===> DISK02   GEN or WRK     ===> GEN
  Tape Pool  ===> __   Primary     ===> 50       Retention      ===> 0
  Vault Meth ===> 0    Secondary   ===> 25       Cycles         ===> 1
  Owner ID   ===> __   Max Sec     ===> 255      DLA            ===> 0
  Unlabeled  ===> N    Primary ALR ===> _______  BLKSZ( _ CISZ) ===> OPT
  Tape Size  ===> L    Auto Purge  ===> N        SYSnnn         ===> 0
  Revolving  ===> N                              System ID      ===> __
                                                 User ID        ===> __
  Comment   ===> ________________________________ Password       ===>




F1=Help  F3=Return  F5=Recall  F12=Exit
```


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Procedure

To update the attributes for a dataset definition:

Step	Action
1	Update any attribute for the EDD using one of the following methods: ■ To remove the Disk Pool specification, replace the current value with the word NO. ■ To remove the Primary, Secondary, Max Sec, or Primary ALR value, replace the current value with a zero (0).
2	Press Enter to update the EDD.
3	Press F3 to exit without updating the EDD.

Using TSIDMNT UPDATE

BIM-EPIC also provides TSIDMNT UPDATE to modify EDDs. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using UPDATE.

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Releasing a Locked Dataset Definition

Description

Releasing a locked BIM-EPIC dataset definition (EDD) allows the EDD to be used for a one-time output. Once this occurs, the EDD is placed in a locked state. You can release an EDD from the Manage EDDs panel. To permanently release an EDD, use the UNLOCK command.

Procedure

To access the Manage EDDs panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type one of the following in the Name field: ■ Dataset name to display a specific dataset ■ Part of a dataset name with an asterisk as the last character to display all dataset names beginning with the characters preceding the asterisk ■ * to display all DSNs in the catalog
5	Press Enter to open the Manage EDDs panel.

Manage EDDs Panel

The following is an example of a Manage EDDs panel.

```
TSIO0101.Z ----------- BIM-EPIC - Manage EDDs ------------------  USER=SJA
COMMAND ===>
                                                                More: >

  Dataset Name                Cyc Reten  DLA ----- Attributes ------ GEN or
   Width: 25                              Lock Rel Rev Unlbl NSub  WRK

_ BATCH CONVERT OUT            1     0    0  N    N   N    N    N    GEN
_ BILL BACKUP                  4     0    0  N    N   N    N    N    GEN
_ BILL.REPRINT.FILE            2     0    0  N    N   N    N    N    GEN
_ BILLING.PAN.ORDER            1     0    0  N    N   N    N    N    GEN
_ BILRECS BKUP TAPE           60     0    0  N    N   N    N    N    GEN
_ BLS.REC                      6     0    0  N    N   N    N    N    GEN
_ BUD.ACASH.BKUP               1     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP               3     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP1              3     0    0  N    N   N    N    Y    GEN




 A = Add-Ver C = Close F = Release I = Info   J = Lock  K = Unlock  L = Delete
 M = Model   P = Purge R = Rename  U = Update V = Versions ( X = Exploded Lst)
 F1=Help  F3=Return  F5=Recall  F11=Right  F12=Exit
```

Procedure

To release a locked dataset definition:

Step	Action
1	Place the cursor in front of the name of the dataset definition you want to release.

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Step	Action
2	Type **F** (Release) to release the dataset definition.
3	Press Enter.

Using TSIDMNT RELEASE

BIM-EPIC also provides TSIDMNT RELEASE to allow a one-time use of a locked EDD. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using RELEASE.

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Unlocking a Dataset Definition

Description

Unlocking a BIM-EPIC dataset definition (EDD) allows the EDD to be used for output (creating new versions with the EDD name and attributes). You can unlock an EDD from the Manage EDDs panel.

Procedure

To access the Manage EDDs panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type one of the following in the Name field: ■ Dataset name to display a specific dataset ■ Part of a dataset name with an asterisk as the last character to display all dataset names beginning with the characters preceding the asterisk ■ * to display all DSNs in the catalog
5	Press Enter to open the Manage EDDs panel.

Manage EDDs Panel

The following is an example of a Manage EDDs panel.

```
TSIO0101.Z ----------- BIM-EPIC - Manage EDDs ------------------  USER=SJA
COMMAND ===>
                                                                More: >

  Dataset Name               Cyc Reten  DLA ----- Attributes ------ GEN or
   Width: 25                                Lock Rel Rev Unlbl NSub  WRK

_ BATCH CONVERT OUT            1     0    0  N    N   N    N    N    GEN
_ BILL BACKUP                  4     0    0  N    N   N    N    N    GEN
_ BILL.REPRINT.FILE            2     0    0  N    N   N    N    N    GEN
_ BILLING.PAN.ORDER            1     0    0  N    N   N    N    N    GEN
_ BILRECS BKUP TAPE           60     0    0  N    N   N    N    N    GEN
_ BLS.REC                      6     0    0  N    N   N    N    N    GEN
_ BUD.ACASH.BKUP               1     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP               3     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP1              3     0    0  N    N   N    N    Y    GEN




 A = Add-Ver C = Close F = Release I = Info   J = Lock  K = Unlock  L = Dele
 M = Model   P = Purge R = Rename  U = Update V = Versions ( X = Exploded Ls
 F1=Help  F3=Return  F5=Recall  F11=Right  F12=Exit
```

Procedure

To unlock a dataset definition:

Step	Action
1	Place the cursor in front of the name of the dataset definition you want to unlock.

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Step	Action
2	Type **K** (Unlock) to unlock the dataset definition.
3	Press Enter.

Using TSIDMNT UNLOCK

BIM-EPIC also provides the TSIDMNT UNLOCK command to unlock an EDD. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using UNLOCK.

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Deleting a Dataset Definition

Description

When you delete a BIM-EPIC dataset definition (EDD), all version information is removed from the DSN Catalog, but tape volume information is kept under the internal-use dataset name ** DSN DELETED ** until the volume serial number is reused or purged. You can delete an EDD from the DSN Catalog using the Manage EDDs panel.

Procedure

To access the Manage EDDs panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type one of the following in the Name field: ■ Dataset name to display a specific dataset ■ Part of a dataset name with an asterisk as the last character to display all dataset names beginning with the characters preceding the asterisk ■ * to display all DSNs in the catalog
5	Press Enter to open the Manage EDDs panel.

Manage EDDs Panel

The following is an example of a Manage EDDs panel.

```
TSIO0101.Z ----------- BIM-EPIC - Manage EDDs ------------------  USER=SJA
COMMAND ===>
                                                                More: >

  Dataset Name              Cyc Reten  DLA ----- Attributes ------ GEN or
   Width: 25                                Lock Rel Rev Unlbl NSub  WRK

_ BATCH CONVERT OUT           1     0    0  N    N   N    N    N    GEN
_ BILL BACKUP                 4     0    0  N    N   N    N    N    GEN
_ BILL.REPRINT.FILE           2     0    0  N    N   N    N    N    GEN
_ BILLING.PAN.ORDER           1     0    0  N    N   N    N    N    GEN
_ BILRECS BKUP TAPE          60     0    0  N    N   N    N    N    GEN
_ BLS.REC                     6     0    0  N    N   N    N    N    GEN
_ BUD.ACASH.BKUP              1     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP              3     0    0  N    N   N    N    N    GEN
_ BUDGET.SQLBKUP1             3     0    0  N    N   N    N    Y    GEN



 A = Add-Ver C = Close F = Release I = Info   J = Lock  K = Unlock  L = Delete
 M = Model   P = Purge R = Rename  U = Update V = Versions ( X = Exploded Lst)
 F1=Help  F3=Return  F5=Recall  F11=Right  F12=Exit
```

Procedure

To delete a dataset definition:

Step	Action
1	Place the cursor in front of the name of the dataset definition you want to delete.

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Step	Action
2	Type **L** (Delete) to delete the dataset definition.
3	Press Enter.

Using TSIDMNT DELETE

BIM-EPIC also provides TSIDMNT DELETE to remove an EDD. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using DELETE.

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Managing Dataset Versions

Displaying Version Information

Description

In order to view or modify a dataset version online, you must first locate the dataset entry in the DSN Catalog. Online Manager provides the Search Catalog panel for providing a list of dataset versions that match specific criteria. You can search for dataset versions using the following criteria:

Type one of the following in the Name field:

- Dataset name to display a specific dataset
- Part of a dataset name with an asterisk as the last character to display all dataset names beginning with the characters preceding the asterisk
- * to display all DSNs in the catalog
- Two-character, user-defined User ID (not system USERID)
- Two-character, user-defined System ID (not SMFID)
- Scratch or active
- Tape pool ID
- Creation job name

Procedure

To access the Manage EDDs panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.

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Search Catalog Panel

The following is an example of a Search Catalog panel.

```
TSIO0100.3 ---------- BIM-EPIC - Search Catalog ----------------  USER=SJA
COMMAND ===>


   CATALOG SEARCH
   Name   ===> ____________________________________________
   Level  ===> E       E = EDD
     or               V = Version ( X = Exploded List )
   Volser ===> ______

   DISPLAY FORMAT
   Active Profile ===> $DEFPROF (1-8 characters)
   Profile Level  ===> _         E = EDD
                                 V = Version
                                 C = Confirmation


   EDD FILTERS                          VERSION FILTERS
   User ID   ===> __  (2 chars)         Tape or Disk ===> _      (T/D)
   System ID ===> __  (2 chars)         Scratched    ===> _      (Y/N)
   Tape Pool ===> __  (0-9 or A-Z)      Create Job   ===> ________


  F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

To display version information from the Search Catalog panel:

Step	Action
1	Type a fully or partially qualified dataset name in the Name field. If you specify a partially qualified dataset name, all versions that meet the specified criteria are displayed. An asterisk (*) can be substituted for a series of characters. A question mark (?) can be substituted for an individual character.
2	Tab to the Level field.
3	Type **V** (Versions) in the Level field to view selected versions.
4	Use the version filters at the bottom of the panel to obtain more specific search criteria.
5	Press Enter to open the Manage Versions panel listing the dataset versions that match your search criteria.
6	Press F3 to exit without listing the dataset versions.

Using TSIDMNT DISPLAY

BIM-EPIC also provides TSIDMNT DISPLAY to list version information. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using DISPLAY.

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Selecting a Version from a List

Description

The Manage Versions panel lists dataset versions based on the search criteria specified on the Search Catalog panel. From the Manage Versions panel, you can:

- Select a specific version to display
- Close a specific version
- Lock a specific version
- Unlock a specific version
- Release a specific version
- Scratch a specific version
- Retain a specific version
- Cycle a specific version

From the Manage Versions panel, you can also display and maintain tape volume information.

Procedure

The Manage Versions panel displays the Search Catalog search results showing all dataset versions that meet the search criteria specified. The list of results begins with the dataset name. If you did not enter a dataset name, the listing begins with the first dataset in the DSN Catalog meeting any criteria you specified. The size of the DSN Catalog determines how long it will take to retrieve the data.

Manage Versions Panel

The following is an example of a Manage Versions panel.

```
TSIO0200.D ---------- BIM-EPIC - Manage Versions ---------------  USER=SJA
COMMAND ===>
                                                                More: +>


  Dataset Name              Version Number-of First  --- Creation ---
   Width: 25                        Vols/Exts Volser Date        Time

_ BATCH CONVERT OUT             1        1    DUMMY6 08/01/1997 18:20
_ BILL BACKUP                   1        1    DUMMY1 08/01/1997 19:51
_ BILL BACKUP                   2        1    DUMMY1 07/31/1997 20:57
_ BILL BACKUP                   3        1    DUMMY1 07/30/1997 19:23
_ BILL BACKUP                   4        1    DUMMY3 07/29/1997 19:30
_ BILL.REPRINT.FILE             1        1    DUMMY3 08/01/1997 11:27
_ BILL.REPRINT.FILE             2        1    DUMMY6 07/31/1997 15:05
_ BILLING.PAN.ORDER             1        1    DUMMY0 08/01/1997 17:55
_ BILRECS BKUP TAPE             1        1    000050 07/29/1997 14:14
_ BILRECS BKUP TAPE             2        1    000024 06/26/1997 14:20
_ BILRECS BKUP TAPE             3        1    000061 05/28/1997 16:42
_ BILRECS BKUP TAPE             4        1    000019 04/29/1997 09:57
_ BILRECS BKUP TAPE             5        1    000143 03/28/1997 09:00
 A = Append C = Close  E = Ext/Reels F = Release H = Retain   I = Informatic
 J = Lock   K = Unlock M = Mcatalog  S = Scratch T = Transfer Y = Cycle
 F1=Help  F3=Return  F5=Recall  F8=Fwd  F11=Right  F12=Exit
```


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Procedure

To manage a version entry:

Step	Action
1	Type the letter of the command you want to execute in front of the version you want to process. You can enter commands for as many entries as you want.
2	Press Enter to invoke the commands entered.
3	Press F3 to exit without performing any commands.

Using TSIDMNT

BIM-EPIC provides TSIDMNT to manage dataset versions. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using TSIDMNT.

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Displaying Version Attributes

Description

The Version Information panel lists information specific to a dataset version. From the Version Information panel, you can add a new version or display information on associated volumes.

Procedure

To display version attributes:

Step	Action
1	Open the Manage Versions panel.
2	Type **I** (Information) next to the selected dataset name.
3	Press Enter to open the Version Information panel.

Version Information Panel

The following is an example of a Version Information panel.

```
TSIO0201.G -------- BIM-EPIC - Version Information -------------  USER=SJA
 COMMAND ===>

 ( _ ) Dataset: BILL.REPRINT.FILE                            Version: 1

   VERSION HISTORY                                          STATUS
   Create Date:   08/01/1997  Expire Date: 08/01/1997      Scratched:  N
   Create Time:   11:27       DLA:         0              Open:       N
   Create Job:    OCNRPRNT    Cycles:      2              Locked:     N
   Last Acc Date: 08/02/1997  Reten:       0              Released:   N
   Last Acc Job:  TSIBACK     Last Backup: 000235         CondCat:    N
                                                          Offloaded:  N
   VERSION INFORMATION
   GEN or WRK:    GEN         Block Size:  999            ATTRIBUTES
   Generation:    138         Record Size: 3              Newsub:     N
   File Seq:      -           Blocks:      0              Revolving:  N
   SYSLOG ID:     C2          Tape Mode:   -              MCataloged: N
   CPU ID:        9           Media Type:  DISK           Unlabeled:  N
   Vault ID:      -           Slot:        -              Cycled:     N
   Tape Pool:     NA          Extents:     1              Prime:      Y


  A = Append  C = Close     E = Extents  F = Release   H = Retain  J = Lock
  K = Unlock  M = Mcatalog  S = Scratch  T = Transfer  Y = Cycle
  F1=Help  F3=Return  F5=Recall  F12=Exit
```

Using TSIDMNT DISPLAY

BIM-EPIC also provides TSIDMNT DISPLAY to list version information in batch mode. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using DISPLAY.

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Adding Version Information

Description

The Add a Tape Version panel allows you to add a new version to an existing BIM-EPIC dataset definition (EDD) or to add new volume serial numbers to an existing dataset version.

Procedure

To add a new tape version to a controlled dataset definition:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type the name of the dataset definition in the Name field.
5	Type **V** (Versions) in the Level field to view selected versions.
6	Press Enter to open the Manage Versions panel.
7	Type **A** (Add).
8	Press Enter to open the Add a Tape Dataset panel.

To append reels to an existing dataset version:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type the name of the dataset definition in the Name field.
5	Type **V** (Versions) in the Level field.
6	Press Enter to open the Manage Versions panel.
7	Tab to the name of the dataset that requires the additional reel.
8	Type **A** (Append).
9	Press Enter to open the Append Extents to Disk Version panel.
10	Type the required information.

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Add a Tape Dataset Version Panel

The following is an example of an Add a Tape Dataset Version panel.

```
TSIO0203.t ---- BIM-EPIC - Add a Tape Dataset Version ----------  USER=SJA
 COMMAND ===>

  Dataset ===> BILRECS BKUP TAPE

     VERSION INFORMATION
     Version Number            ===> 1      (1 - 9999)
     Version Block Size        ===> _____  (1 - 32767)
     File Seq Number           ===> ____   (2 - 9999)
     Offload Seq Number        ===> ____   (1 - 9999)
     Use scratch tapes         ===> _      (Y/N)

     VOLSER(S)                                          More: +
      1 ______   2 ______   3 ______   4 ______   5 ______   6 ______
      7 ______   8 ______   9 ______  10 ______  11 ______  12 ______
     13 ______  14 ______  15 ______  16 ______  17 ______  18 ______
     19 ______  20 ______  21 ______  22 ______  23 ______  24 ______
     25 ______  26 ______  27 ______  28 ______  29 ______  30 ______
     31 ______  32 ______  33 ______  34 ______  35 ______  36 ______
     37 ______  38 ______  39 ______  40 ______  41 ______  42 ______
     43 ______  44 ______  45 ______  46 ______  47 ______  48 ______


  F1=Help  F3=Return  F5=Recall  F8=Fwd  F11=Disk Add  F12=Exit
```

Procedure

To add new information to a volume:

Step	Action
1	Specify the desired attributes and volume serial numbers (volsers) for the new version.
2	Press Enter to add the tape version.

Using TSIDMNT ADD

BIM-EPIC also provides TSIDMNT ADD to add a version to a controlled dataset. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using ADD.

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Locking a Version

Description

Locking a dataset version prevents the version from being used as input. You can lock a dataset version from any panel that allows general version management.

Procedure

To access the Manage Versions panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type the dataset name and Level V on the Search Catalog panel.
5	Type **V** (Versions) in the Level field.
6	Press Enter to open the Manage Versions panel.

Manage Versions Panel

The following is an example of a Manage Versions panel.

```
TSIO0200.D ---------- BIM-EPIC - Manage Versions --------------  USER=SJA
 COMMAND ===>
                                                                More: +>


   Dataset Name              Version Number-of First  --- Creation ---
    Width: 25                      Vols/Exts Volser Date        Time

 _ BATCH CONVERT OUT             1       1    DUMMY6 08/01/1997 18:20
 _ BILL BACKUP                   1       1    DUMMY1 08/01/1997 19:51
 _ BILL BACKUP                   2       1    DUMMY1 07/31/1997 20:57
 _ BILL BACKUP                   3       1    DUMMY1 07/30/1997 19:23
 _ BILL BACKUP                   4       1    DUMMY3 07/29/1997 19:30
 _ BILL.REPRINT.FILE             1       1    DUMMY3 08/01/1997 11:27
 _ BILL.REPRINT.FILE             2       1    DUMMY6 07/31/1997 15:05
 _ BILLING.PAN.ORDER             1       1    DUMMY0 08/01/1997 17:55
 _ BILRECS BKUP TAPE             1       1    000050 07/29/1997 14:14
 _ BILRECS BKUP TAPE             2       1    000024 06/26/1997 14:20
 _ BILRECS BKUP TAPE             3       1    000061 05/28/1997 16:42
 _ BILRECS BKUP TAPE             4       1    000019 04/29/1997 09:57
 _ BILRECS BKUP TAPE             5       1    000143 03/28/1997 09:00
  A = Append C = Close  E = Ext/Reels F = Release H = Retain   I = Information
  J = Lock   K = Unlock M = Mcatalog  S = Scratch T = Transfer Y = Cycle
  F1=Help  F3=Return  F5=Recall  F8=Fwd  F11=Right  F12=Exit
```

Procedure

To lock a version of a dataset:

Step	Action
1	Place the cursor next to the version you want to lock.
2	Type **J** (Lock).
3	Press Enter to lock the version.

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Using TSIDMNT LOCK

BIM-EPIC also provides TSIDMNT LOCK to lock a version. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using LOCK.

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Closing a Version

Description

It may be necessary to manually close a dataset version if it is in open status or if it is in conditionally cataloged status as a result of an abnormal termination of a job. You can close a version from the Manage Versions panel. You may want to delete the version after setting it to closed status since the data may be incomplete as the result of the abnormal termination.

Procedure

To access the Manage Versions panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type the name of the dataset definition in the Name field.
5	Type **V** (Versions) in the Level field to view selected versions.
6	Press Enter to open the Manage Versions panel.

Manage Versions Panel

The following is an example of the Manage Versions panel.

```
TSIO0200.D ---------- BIM-EPIC - Manage Versions --------------  USER=SJA
COMMAND ===>
                                                                More: +>


  Dataset Name              Version Number-of First  --- Creation ---
   Width: 25                      Vols/Exts Volser Date        Time

_ BATCH CONVERT OUT            1       1    DUMMY6 08/01/1997 18:20
_ BILL BACKUP                  1       1    DUMMY1 08/01/1997 19:51
_ BILL BACKUP                  2       1    DUMMY1 07/31/1997 20:57
_ BILL BACKUP                  3       1    DUMMY1 07/30/1997 19:23
_ BILL BACKUP                  4       1    DUMMY3 07/29/1997 19:30
_ BILL.REPRINT.FILE            1       1    DUMMY3 08/01/1997 11:27
_ BILL.REPRINT.FILE            2       1    DUMMY6 07/31/1997 15:05
_ BILLING.PAN.ORDER            1       1    DUMMY0 08/01/1997 17:55
_ BILRECS BKUP TAPE            1       1    000050 07/29/1997 14:14
_ BILRECS BKUP TAPE            2       1    000024 06/26/1997 14:20
_ BILRECS BKUP TAPE            3       1    000061 05/28/1997 16:42
_ BILRECS BKUP TAPE            4       1    000019 04/29/1997 09:57
_ BILRECS BKUP TAPE            5       1    000143 03/28/1997 09:00
 A = Append C = Close  E = Ext/Reels F = Release H = Retain   I = Information
 J = Lock   K = Unlock M = Mcatalog  S = Scratch T = Transfer Y = Cycle
 F1=Help  F3=Return  F5=Recall  F8=Fwd  F11=Right  F12=Exit
```

Procedure

To close a version:

Step	Action
1	Place the cursor next to the version you want to close.
2	Type **C** (Close).
3	Press Enter to close the version.

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Using TSIDMNT CLOSE

BIM-EPIC also provides TSIDMNT CLOSE to close a dataset version. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using CLOSE.

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Removing Version Information from the DSN Catalog

Description

Dataset version information can be removed from the DSN Catalog by deleting the associated dataset definition or by purging the associated tape volume serial number. If a disk-resident version, scratching the version will remove it from the DSN Catalog, as well.

Procedure

See “Deleting a Dataset Definition” or “Purging a Tape Volume” for specific information. If a disk-resident version, see “Scratching a Disk Dataset” for additional information.

Using TSIDMNT DELETE and PURGE

BIM-EPIC also provides TSIDMNT DELETE and TSIDMNT PURGE to remove a dataset definition or purge a tape volume from the DSN Catalog. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using DELETE and PURGE.

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Managing Tapes

Tapes in the DSN Catalog

Every tape BIM-EPIC uses for a controlled dataset is recorded in the DSN Catalog. Tapes are identified in the DSN Catalog by volume serial number. New tapes are automatically added to the DSN Catalog when BIM-EPIC-controlled datasets residing on tapes are processed. You can also enter tape information into the DSN Catalog using Online Manager or TSIDMNT ADD.

Valid Volume Serial Numbers (Volsers)

Every controlled tape that BIM-EPIC uses must have a unique volume serial number (volser). Even unlabeled tapes must be identified with unique volume serial numbers. This strict identification rule simplifies tape control and retrieval processes. For controlled datasets that are opened for output, BIM-EPIC checks the volume serial number of a new tape against the numbers in the DSN Catalog. If there is a duplicate dataset or an active dataset on the tape, BIM-EPIC requires you to enter a new volume serial number or use a different tape.

Volume serial numbers can be any unique combination of alphanumeric characters but cannot exceed the VSE limit of six characters in length. BIM-EPIC reserves volume serial number 000000 to use as a special marker in the DSN Catalog. Groups of volume serial numbers do not need to be consecutive. However, since tape pools are defined by ranges of volume serial numbers, it is helpful to initialize tape pools with consecutive volume serial numbers.

Producing Scratch Tapes

Online Manager, TSIDUTL, and TSIDMNT SCRATCH produce scratch tapes. In addition, TSIDUTL DSPLY produces a report listing all available scratch tapes. If a tape resides in an Automatic Cartridge Library (ACL) when it is scratched in the DSN Catalog, the tape is scratched in the ACL also. See “Retaining and Scratching Datasets” for more information on scratch functions.

Tape Pooling

You can use tape pooling to group similar types of tapes into tape pools. For example, you can have a volume serial number range in one or more pools, 3590 tape cartridges in a pool, ACL-resident tape cartridges in a pool, and so on. Datasets are assigned to tape pools through their BIM-EPIC dataset definition (EDD) entry in the DSN Catalog. BIM-EPIC requests a scratch tape from the appropriate pool when a pooled dataset is created.

Each pool is given a one-character pool code (A to Z or 0 to 9) and is assigned one or more volume serial number ranges. If a volume serial number falls within a specific pool range, the tape is assigned to that pool. A tape pool can only be used to write datasets assigned to that pool. If a volume serial number does not fall in any of the defined ranges, the tape

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is not associated with any pool. The tape can only be used to write datasets which are not assigned to a tape pool. Datasets can be assigned to a tape pool using manual cataloging or automatic cataloging.

If you use ACL support with pooling, the same pools must also be defined to the ACL system. Refer to the vendor ACL documentation for information on defining pools to the ACL system.

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BIM-EPIC Tape Selection Process

Description

IM-EPIC controls which tapes can be used for output by checking the volume serial number of every tape processed. If the tape is controlled, the serial number is compared with the corresponding DSN Catalog entry for scratch status before the tape is used as output.

If the tape is uncontrolled, BIM-EPIC checks to see if the volume serial number was initialized by VSE DITTO and if it is in expired status. If both conditions are not met, BIM-EPIC does not use the tape. If no qualified volumes are found, the operator is requested to mount a tape.

If the operator is requested to mount a tape, it must be a valid scratch tape, and if a "mount for Pool *x*" is part of the request, the volume must be within the serial number range defined for "Pool *x*."

If revolving tapes are used, BIM-EPIC issues a general request for a scratched revolving tape for that dataset.

For input tapes, BIM-EPIC scans the tape drives looking for the required volume serial number. If the volume serial number is not found, the operator is requested to mount the tape. If the tape is not mounted, BIM-EPIC requests the operator mount the volume serial number of the last tape used for that multi-file group.

Note:
BIM-EPIC-controlled tapes cannot be used to write an uncontrolled dataset.

ACL Support

If Automatic Cartridge Library (ACL) support is activated, BIM-EPIC checks to see if the required volume is in an ACL, and of so, instructs the ACL to mount the volume. If the volume is not in the ACL, the previously described "non-ACL" logic is followed.

ACL cartridges for BIM-EPIC controlled tapes should never be mounted by the operator. BIM-EPIC expects to issue the mount request to the ACL. If the operator does a manual mount, the results are unpredictable.

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Displaying Tape Volume Information

Description

The Tape Volume Information panel displays information on any controlled tape volume. You can also execute tape functions from the Tape Volume Information panel.

Procedure

To access the Tape Volume Information panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Tab to the Volser field.
5	Type the volume serial number in the Volser (Volume Serial Number) field.
6	Press Enter to display tape volume information.

Tape Volume Information Panel

The following is an example of the Tape Volume Information panel.

```
TSIO0401.V ------ BIM-EPIC - Tape Volume Information -----------  USER=SJA
COMMAND ===>

( _ ) Volser ===> 000143

  VOLUME HISTORY                                          ATTRIBUTES
  Expire Date:   03/28/1997  Create Date: 03/28/1997     Scratched: N
  Last Acc Date: 03/28/1997  Create Time: 09:00          Unlabeled: N
  Last Acc Job:  TVMBRRST    Create Job:  TVMBRBKP       Open:      N
  Clean Date:    .           CPU ID:      9              Revolving: N
                             SYSLOG ID:   C1             CondCat:   N

  VOLUME INFORMATION                                      LOCATION
  Reel:          1           Use Count:   6              Vault:     0
  Tape Pool:     NA          Error Count: NA             Slot:      0
  Device Addr:   0610        Media Type:  CART           ACL Name:  .
  Tape Size:     LARGE       Tape Mode:   F8             ACL Cell:  .
  Blocks:        9987

  Current Dataset:     .
  First DS on Volume:  BILRECS BKUP TAPE

 C = Clean  M = Move  P = Purge
 F1=Help  F3=Return  F5=Recall  F12=Exit
```


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Maintaining Tape Volume Information

Description

You can manage tape volume information using the Manage Tape Volumes panel.

Procedure

To access the Manage Tape Volumes panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Tab to the Volser field.
5	Type the volume serial number in the Volser (Volume Serial Number) field.

Manage Tape Volumes Panel

The following is an example of the Manage Tape Volumes panel.

```
TSIO0400.r -------- BIM-EPIC - Manage Tape Volumes -------------  USER=SJA
COMMAND ===>
                                                                More: NO
Dataset: BILRECS BKUP TAPE                                     Version: 5

   Volser Reel  Creation    Expire   --- Last Access ---  Use  Vault  Slot
                  Date       Date    Date       Job      Count

 _ 000143    1 03/28/1997 03/28/1997 03/28/1997 TVMBRRST     6     0     0




 C = Clean  I = Information  M = Move  P = Purge
 F1=Help  F3=Return  F5=Recall  F12=Exit
```

The Manage Tape Volumes panel and the Tape Volume Information panel provide access to the following commands:

- Clean
- Information
- Move
- Purge

Note:
You are able to purge volume serial numbers from the Manage Tape Volumes panel. If you want BIM-EPIC to confirm all PURGE requests, set PURGE=Y in the Modify Profile Defaults (CONFIRM) panel.

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Using TSIDMNT

BIM-EPIC also provides TSIDMNT to manage tape volumes. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for additional information on using TSIDMNT.

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Purging a Tape Volume

Description

You can purge a tape volume from the DSN Catalog using the Manage Tape Volumes panel.

Procedure

To access the Manage Tape Volumes panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage)
3	Press Enter to open the Search Catalog panel.
4	Tab to the Volser field.
5	Type the volume serial number in the Volser (Volume Serial Number) field.

Manage Tape Volumes Panel

The following is an example of the Manage Tape Volumes panel.

```
TSIO0400.r -------- BIM-EPIC - Manage Tape Volumes -------------  USER=SJA
 COMMAND ===>
                                                                More: NO
 Dataset: BILRECS BKUP TAPE                                   Version: 5

    Volser Reel  Creation    Expire   --- Last Access ---  Use  Vault  Slot
                  Date       Date    Date       Job      Count

  _ 000143    1 03/28/1997 03/28/1997 03/28/1997 TVMBRRST    6     0     0



  C = Clean  I = Information  M = Move  P = Purge
  F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

To purge a tape volume:

Step	Action
1	Type **P** next to the volume serial number (volser).
2	Press Enter.
3	Type YES to confirm the purge, if prompted.

Using TSIDMNT PURGE

BIM-EPIC also provides TSIDMNT PURGE to remove tape volume information from the DSN Catalog. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using PURGE.

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Recording Tape Cleaning

Description

You can record tape cleaning using either the Tape Volume Information panel or the Manage Tape Volumes panel.

Procedure

To access the Tape Volumes Information panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Tab to the Volser field.
5	Type the volume serial number in the Volser (Volume Serial Number) field.

Manage Tape Volumes Panel

The following is an example of the Manage Tape Volumes panel.

```
TSIO0400.r -------- BIM-EPIC - Manage Tape Volumes -------------  USER=SJA
 COMMAND ===>
                                                                More: NO
 Dataset: BILRECS BKUP TAPE                                   Version: 5

    Volser Reel  Creation    Expire   --- Last Access ---  Use  Vault  Slot
                  Date       Date    Date       Job      Count

  _ 000143    1 03/28/1997 03/28/1997 03/28/1997 TVMBRRST     6     0     0


  C = Clean  I = Information  M = Move  P = Purge
  F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

To record tape cleaning from either the Tape Volume Information panel or the Manage Tape Volumes panel:

Step	Action
1	Type **C** next to the volume serial number.
2	Press Enter to record tape cleaning.

Using TSIDMNT CLEAN

BIM-EPIC also provides TSIDMNT CLEAN to record tape cleaning. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using CLEAN.

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Retaining and Scratching Datasets

Understanding Retention Concepts

Description

Retention is the amount of time a dataset is kept before the dataset is scratched. Retention is one of the most critical areas of information control. Scratching or making a tape available for reuse, occurs when a dataset version's retention criteria have been met. Retention criteria for automated tape management systems must be monitored and controlled by users in order to protect their information.

Implementing Retention

BIM-EPIC maintains a variety of retention criteria. A version is scratched only when all criteria are met.

BIM-EPIC commands DELETE and SCRATCH are used for scratching versions. Single-file tape volumes associated with scratched dataset versions become valid scratch tapes immediately after using either of these commands. Multi-file tape volumes become valid scratch tapes when all associated datasets are scratched. Scratched disk versions are immediately removed from the VTOC.

DELETE removes a dataset definition and all associated versions from the DSN Catalog and from BIM-EPIC control. All tape volumes associated with the dataset definition become scratch tapes according to the rules for single-file and multi-file tape volumes and are listed in the DSN Catalog under the dataset name ** DSN DELETED **. See "Managing Dataset Definitions" for additional information. All disk versions are removed from the VTOC.

SCRATCH scratches one or more versions of a specific dataset. You can use associated tape volumes immediately as output tapes. BIM-EPIC resequences version numbers as you scratch each version. For example, if you scratch version number 1, version 2 now becomes version 1, version 3 now becomes version 2, and so on.

Initiating the Scratch Process

You must run a scratch process before BIM-EPIC expires a dataset or allows a tape to be reused. Scratch processes can be performed manually using either Online Manager or TSIDMNT.

TSIDUTL SCRATCH searches the entire DSN Catalog for all dataset versions which have satisfied their retention criteria and scratches them. You can limit the scratch process to tape only, disk only, or to certain user IDs or system IDs.

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Setting Dataset Definition Retention

Description

When a BIM-EPIC dataset definition (EDD) is created manually using the Define an EDD panel, a new set of retention criteria is defined which will apply to all future versions of that dataset.

Access

To access the Define an EDD panel:

Step	Action
1	Open the Primary Option menu.
2	Type **D** (Define).
3	Press Enter to open the Define an EDD panel.

Define an EDD Panel

The following is an example of a Define an EDD panel.

```
TSIO0103.D ----------- BIM-EPIC - Define an EDD ----------------  USER=SJA
COMMAND ===>


  DEFINE

  Dataset ===> ____________________________________________
  Model   ===> ____________________________________________

  TAPE INFORMATION     DISK INFORMATION          DATASET INFORMATION
  TPAdev: N  Mode: __  Disk Pool   ===> ______   GEN or WRK     ===> ___
  Tape Pool  ===> __   Primary     ===> _______  Retention      ===> ____
  Vault Meth ===> ___  Secondary   ===> _______  Cycles         ===> ___
  Owner ID   ===> __   Max Sec     ===> ___      DLA            ===> ____
  Unlabeled  ===> _    Primary ALR ===> _______  BLKSZ( _ CISZ) ===> _____
  Tape Size  ===> _    Auto Purge  ===> _        SYSnnn         ===> ___
  Revolving  ===> _                              System ID      ===> __
                                                 User ID        ===> __
  Comment   ===> ________________________________ Password       ===>
  Prime DSN ===> _________________               Encrypt Key    ===>



F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

Enter the desired criteria to create the new dataset definition.

Using TSIDMNT CATALOG

BIM-EPIC also provides the TSIDMNT CATALOG command to set dataset definition retention. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using CATALOG.

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Modifying Dataset Definition Retention

Description

When using the Update an EDD panel to modify an existing BIM-EPIC dataset definition (EDD), you can change the existing retention criteria. The changes will apply to all subsequent versions of that dataset.

Access

To access the Update an EDD panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Type the name of the dataset definition you want to update.
5	Press Enter to open the EDD Information panel.
6	Tab to the name of the dataset definition.
7	Type **U** (Update).
8	Press Enter to open the Update an EDD panel.

Update an EDD Panel

The following is an example of an Update an EDD panel.

```
TSIO0104.e ---------- BIM-EPIC - Update an EDD ---------------  USER=SJA
COMMAND ===>


  UPDATE

  Dataset: BATCH CONVERT OUT

  TAPE INFORMATION     DISK INFORMATION          DATASET INFORMATION
  TPAdev: N  Mode: NO  Disk Pool   ===> DISK02   GEN or WRK     ===> GEN
  Tape Pool  ===> __   Primary     ===> 50       Retention      ===> 0
  Vault Meth ===> 0    Secondary   ===> 25       Cycles         ===> 1
  Owner ID   ===> __   Max Sec     ===> 255      DLA            ===> 0
  Unlabeled  ===> N    Primary ALR ===> _______  BLKSZ( _ CISZ) ===> OPT
  Tape Size  ===> L    Auto Purge  ===> N        SYSnnn         ===> 0
  Revolving  ===> N                             System ID      ===> __
                                                User ID        ===> __
  Comment   ===> ____________________________   Password       ===>




F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

To modify the dataset definition, change the values in the desired input fields.

Using TSIDMNT UPDATE

BIM-EPIC also provides the TSIDMNT UPDATE command to modify dataset definition retention. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using UPDATE.

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Setting or Modifying Dataset Version Retention

Description

You can use the Retain a Version panel to set or modify the expiration date, creation date, and creation job name of a version. If the version is not in active status, the version is put in active status automatically.

Access

To access the Retain a Version panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Manage EDDs panel
4	Type **V** (Version) in the Level field.
5	Press Enter to open the Manage Versions panel.
6	Tab to the name of the dataset definition you want to retain.
7	Type **H** (Retain) next to the dataset name.
8	Press Enter to open the Retain a Version panel.

Retain a Version Panel

The following is an example of a Retain a Version panel.

```
TSIO0210.R --------- BIM-EPIC - Retain a Version --------------  USER=SJA

 COMMAND ===>



        RETAIN

        Tape Dataset: BILRECS BKUP TAPE
        Version:      1

          to

        Expire Date  ===> _______  (YYYYDDD format)
        Days + Today ===> ___      (1 to 999 days)
        Create Date  ===> _______  (YYYYDDD format)
        Create Job   ===> ________ (1 to 8 characters)
        TPA Device   ===> _        (Y or N)
        Mode         ===> __      (Creation Density)



 F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

To modify dataset version retention:

Step	Action
1	Update the desired fields.
2	Press Enter. All data entered are verified for syntactic correctness and defaults added. Review the data before proceeding.
3	Press Enter to update the version retention.

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Step	Action
4	Press F3 to exit without performing any updates.

Using TSIDMNT RETAIN

BIM-EPIC also provides TSIDMNT RETAIN to set and modify dataset version retention. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using RETAIN.

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Cycling a Dataset Version

Description

Cycling is a special purpose function that allows you to change the creation date, change the creation job name, or override the number of versions (cycles) retained for a dataset.

You can also use this function to take one version out of the normal retention cycle and reserve it for special retention. The recycled version is:

- Removed from cycle retention for the dataset (it no longer counts as a version in the cycle)
- Retained until the expiration date you specified

For example, if you have instructed BIM-EPIC to keep three versions of a particular dataset and you cycle one version, BIM-EPIC maintains four versions (the cycled version plus three normal versions) until the cycled version reaches its expiration date. All uncycled versions previous to the cycled version are retained by cycle control only. Days Retention and Days Last Accessed Retention values no longer apply. If the datasets are not retained under cycle control, the versions are eligible for scratch during the next run of TSIDUTL. Versions which have been cycled in the past are retained until their expiration date. Cycling a dataset has no effect on versions created after the cycled version.

Use the Cycle a Version panel to execute the cycling function.

CYCLE vs. RETAIN

CYCLE looks very similar to RETAIN. However, CYCLE is quite different. Using RETAIN only affects the version you modify. Using CYCLE affects the version you modify and all previous versions.

Access

To access the Cycle a Version panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Enter the name of the dataset definition you want to cycle.
5	Type **V** (Version) in the Level field to open the Manage Versions panel.
6	Tab to the version of the tape you want to cycle.
7	Type **Y** next to a version name.
8	Press Enter.

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Cycle a Version Panel

The following is an example of a Cycle a Version panel.

```
TSIO0211.Y ---------- BIM-EPIC - Cycle a Version --------------  USER=SJA

 COMMAND ===>


         CYCLE

         Tape Dataset: BILRECS BKUP TAPE
         Version:      1

           to

        Expire Date  ===> ________  (YYYYDDD format)
        Days + Today ===> ___      (1 to 999 days)
        Create Date  ===> ________  (YYYYDDD format)
        Create Job   ===> ________ (1 to 8 characters)



 F1=Help  F3=Return  F5=Recall  F12=Exit
```

Procedure

To cycle a version:

Step	Action
1	Update any desired fields to cycle the version.
2	Press Enter. All data entered are verified for syntactic correctness and defaults are added. Review the data before proceeding.
3	Press Enter to cycle the version.
4	Press F3 to exit without performing any commands.

Using TSIDMNT CYCLE

BIM-EPIC also provides TSIDMNT CYCLE to cycle dataset versions. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using CYCLE.

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Scratching a Dataset Version

Description

There are several different status types that affect when a dataset version becomes eligible for scratch. Datasets in open status are eligible for scratch only after they have been closed using Online Manager or TSIDMNT. All other versions are eligible for scratch only after all of the retention criteria specified for the dataset version have been satisfied. Scratching a dataset version using Online Manager or TSIDMNT SCRATCH expires a specific dataset version. That version is scratched whether or not the retention criteria has been satisfied.

Access

To access the Cycle a Version panel:

Step	Action
1	Open the Primary Option menu.
2	Type **M** (Manage).
3	Press Enter to open the Search Catalog panel.
4	Enter the name of the dataset definition you want to cycle.
5	Type **V** (Version) in the Level field to open the Manage Versions panel.
6	Tab to the version of the tape you want to cycle.
7	Type **Y** next to a version name.
8	Press Enter.

Manage Versions Panel

The following is an example of a Manage Versions panel.

```
TSIO0200.D ---------- BIM-EPIC - Manage Versions ---------------  USER=SJA
COMMAND ===>
                                                                More: +>


  Dataset Name              Version Number-of First  --- Creation ---
   Width: 25                       Vols/Exts Volser Date        Time

_ BATCH CONVERT OUT            1        1    DUMMY6 08/01/1997 18:20
_ BILL BACKUP                  1        1    DUMMY1 08/01/1997 19:51
_ BILL BACKUP                  2        1    DUMMY1 07/31/1997 20:57
_ BILL BACKUP                  3        1    DUMMY1 07/30/1997 19:23
_ BILL BACKUP                  4        1    DUMMY3 07/29/1997 19:30
_ BILL.REPRINT.FILE            1        1    DUMMY3 08/01/1997 11:27
_ BILL.REPRINT.FILE            2        1    DUMMY6 07/31/1997 15:05
_ BILLING.PAN.ORDER            1        1    DUMMY0 08/01/1997 17:55
_ BILRECS BKUP TAPE            1        1    000050 07/29/1997 14:14
_ BILRECS BKUP TAPE            2        1    000024 06/26/1997 14:20
_ BILRECS BKUP TAPE            3        1    000061 05/28/1997 16:42
_ BILRECS BKUP TAPE            4        1    000019 04/29/1997 09:57
_ BILRECS BKUP TAPE            5        1    000143 03/28/1997 09:00
 A = Append C = Close  E = Ext/Reels F = Release H = Retain   I = Information
 J = Lock   K = Unlock M = Mcatalog  S = Scratch T = Transfer Y = Cycle
 F1=Help  F3=Return  F5=Recall  F8=Fwd  F11=Right  F12=Exit
```


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Procedure

To scratch a version:

Step	Action
1	Type S (Scratch) in front of the version you want to scratch.
2	Press Enter.

Print Options

Print output is controlled using the JCL // OPTION LOG. If the option is specified, all processed maintenance is printed on SYSLST. If // OPTION NOLOG is specified, only invalid commands are printed. If your system log option is NO LOG and you want a list of submitted commands, you must provide // OPTION LOG prior to //EXEC TSIDMNT.

Note:
NOLOG is often the default setting in production environments.

Using TSIDMNT SCRATCH

BIM-EPIC also provides TSIDMNT SCRATCH to scratch dataset versions. See Chapter 3, “TSIDMNT—DSN CATALOG MANAGEMENT UTILITY,” for information on using SCRATCH.

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Establishing Online Security

Description

If security is desired, a panel-driven online security facility provides security for the Online Manager by performing the following tasks:

- Allows online catalog management functions and some BIM-EPIC system functions to be restricted to specific users
- Allows multiple users to inherit (model) an individual set of security attributes.
- Provides a set of security defaults for users who are not defined to BIM-EPIC online security

Securing the Online Manager

Defining a security profile for every potential user at a large site can be a tedious task. Online Manager security minimizes this effort by allowing flexible combinations for global defaults, group modeling, and unique individual profiles. For example, one site may want to grant wide system access and restrict only a few users, while another site may want widespread restrictions and limited user access. Each combination is easily accomplished using Online Manager security.

The initial setting for Online Manager is unsecured. However, global security defaults can be modified as needed. A default security profile, $DEFSEC, automatically governs all unsecured users. Users with security system access can use a non–modifiable unsecured profile, $EPIC, as a model for adding new profiles. The first time you modify a profile that was modeled on another profile, the modified profile becomes independent. However, if you modify any profile on which other profiles are modeled, the changes are inherited by the other profiles. This allows you to create any combination of independent and related security profiles.

Planning Security

When using the Online Manager security system, consider the following:

- The online security profile names that you create must follow the convention appropriate for your operating environment. For example, if you are running BIM-EPIC under BIM-FAQS/ASO, user IDs defined for BIM-EPIC security must be known to BIM-FAQS/ASO.
- You should always reserve exclusive security system access for your security administrator. Secure $DEFSEC against security system access.
- You should determine if the global default settings are adequate for most users or whether you need a number of different security profiles for specific users or groups of users. For example, you

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can create specific security profiles by department. Use $DEFSEC to access the default security settings.

Procedure

To access the Online Manager security system:

- From the Primary Option menu, type **SECURITY** on the command line to display a list of SECURED USERS or select SYSTEM to display the System Configuration menu.
- From the System Configuration menu, select SECURITY.

Secured Users Panel

The Secured Users panel displays the names of security profiles that are defined in the Online Manager. Authorized users can use the Secured Users panel to delete, model (copy), and update security profiles.

The following is an example of the Secured Users panel.

```
TSIO0800.T ----------- BIM-EPIC - Secured Users ---------------- USER=TR91

COMMAND ===>


     User ID    (MODEL)       User ID    (MODEL)       User ID    (MODEL)

   _ $DEFSEC               _ $EPIC                 _ SJA       $EPIC



 L = Delete   M = Model   U = Update
 F1=Help  F3=Return  F5=Recall  F6=Add  F12=Exit
```

The Secured Users panel provides two security profiles you can use as models for creating additional security profiles. These security profiles are $DEFSEC and $EPIC.

Definitions

The following describes the User ID profiles displayed in the Secured Users panel.

User ID	Definition
$DEFSEC	Default security profile. **$**DEFSEC is supplied unsecured and is the default security profile for all unsecured users. Using $DEFSEC, the security administrator does not need to define a profile for every user. To prevent unauthorized access to the Online Manager, $DEFSEC cannot be used as a user ID, even if the profile remains unsecured. If the $DEFSEC setting for Bypass the Sign–On Panel is set to N, all unsecured users are locked out of the Online Manager unless the users know the secured ID and password.

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User ID	Definition
$EPIC	Unsecured profile. $EPIC, which cannot be modified, is provided by the Online Manager to use as a model. After $DEFSEC is secured, you can grant total system access to selected users by modeling their user profiles after $EPIC. Profiles modeled on $EPIC can be modified to create custom security profiles. To prevent unauthorized access to the Online Manager, you cannot use $EPIC as a user ID. Use caution when modeling user profiles after $EPIC and leaving the user profiles unmodified. If the user profiles are left unmodified, a user can obtain the profile name and use it to obtain total system access.
SJA	SJA is an example of an unsecured profile that was modeled after $EPIC.

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Creating Security Profiles

Description

You can use an existing security profile as a model when creating new security profiles.

Procedure

To create (model) a new secured profile based on an existing security profile:

Step	Action
1	Type **SECURITY** at the Online Manager command line to display the User Security panel.
2	Type **M** (Model) in front of the $DEFSEC profile.
3	Press Enter to open the new profile.
4	Enter the desired user ID (USER99, for example) when prompted for a new profile name. The list displays the new user ID and shows that the profile was modeled on $DEFSEC. This user ID now possess the same security attributes as $DEFSEC.

User Security Panel

Authorized users can use the User Security panel to modify and model security settings for a selected user ID or group ID. The User Security panel allows users to change the security password, set user global options for security access, and enable or disable specific DSN Catalog management functions for a selected user ID or group ID.

The following is an example of the User Security panel.

```
TSIO0801.u ----------- BIM-EPIC - User Security ---------------- USER=TR91
COMMAND ===>


   USER INFORMATION                       DSN CATALOG COMMAND ALLOWED?
   UserID:       SJA                      Add      ===> Y  Clean    ===> Y
   Password ===>                          Close    ===> Y  Cycle    ===> Y
   Verify   ===>                          Define   ===> Y  Delete   ===> Y
   Model    ===> $EPIC                    Display  ===> Y  Lock     ===> Y
                                          MCatalog ===> Y  Move     ===> Y
   USER GLOBAL OPTIONS                    Purge    ===> Y  Release  ===> Y
   Security system access     ===> Y      Rename   ===> Y  Retain   ===> Y
   Bypass the SIGN-ON panel   ===> Y      Scratch  ===> Y  Transfer ===> Y
   VSE System option access   ===> Y      Unlock   ===> Y  Update   ===> Y
   Profile system access      ===> Y      Poolcmd: Off/Onl/Qui      ===> Y
      Confirmation changes?   ===> Y
      Other users' profiles?  ===> Y
```


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Descriptions

The following describes the input fields for the User Security panel.

Field	Definition
Password	Specifies the user password. An asterisk (*) at the end of the Password field or Verify field indicates that the field has an existing password. For privacy, neither the Password field nor Verify field is displayed on the screen. You can use the Model field to import security settings from another secured user profile.
Verify	Confirms the password. An asterisk (*) at the end of the Password field or Verify field indicates that the field has an existing password. For privacy, neither the Password field nor Verify field is displayed on the screen. You can use the Model field to import security settings from another secured user profile.
Security system access	Specifies whether the selected user can change security system settings.
Bypass the SIGN-ON panel	Specifies if Online Manager access requires a sign-on panel.
VSE System option access	Controls access to the BIM-EPIC processing options.
Profile system access	Controls access to the profile display formats. Subsequent fields can be used to restrict users from accessing their confirmation settings and other profiles, if desired. Access to other profiles should be set to N, so that profile modeling cannot be affected by anyone besides the owner of a model profile.
DSN CATALOG COMMAND ALLOWED?	Fields control access to individual DSN Catalog management functions.

Changing Security Settings

You can change the security settings using the Secured Users panel. To change the security settings:

Step	Action
1	Type **SECURITY** at the Primary Option Menu to display the Secured Users panel.
2	Tab to the selected security profile.
3	Type **U** (Update) in front of the selected security profile.
4	Press Enter to open the User Security panel.
5	Modify the security settings as needed.
6	Verify your changes and F6 to accept the changes.

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If the security profile is modeled after an existing profile, the relationship is removed and the Model fields should be empty.

Sign–On Panel

If a user profile requires a password to access Online Manager, the Sign-On panel is displayed when the user enters the EPIC transaction. The Sign-On panel prompts the user for a user ID and password. The panel recognizes only user IDs listed on the Secured Users panel. If the Bypass Sign-On panel is set to N in $DEFSEC, all users are locked out of Online Manager unless they know a user ID and password.

The following is an example of the Sign-On panel.

```
TSIOSIGN.0 head                                                USER=SJA
COMMAND ===>



      BBBB     IIIII     M     M    OOO    Y     Y  L      EEEEE
      B   B      I       MM   MM   O   O    Y   Y   L      E
      B   B      I       M M M M  O     O    Y Y    L      E
      BBBB       I       M  M  M  O     O     Y     L      EEEE
      B   B      I       M     M  O     O    Y      L      E
      B   B      I       M     M   O   O    Y      L      E
      BBBB     IIIII     M     M    OOO    Y      LLLLL  EEEEE

                  BIM-EPIC - ONLINE MANAGER


                       User ID  ===> ________
                       Password ===>



 F1=Help  F3=Return  F5=Recall  F12=Exit
```

Security Administration

To create or change security profiles:

Step	Action
1	Type **SECURITY** at the Primary Option panel.
2	Press Enter to open the Secured Users panel.
3	Tab to the selected security profile. **Note:** This profile should be modeled after $EPIC.
4	Type **U** (Update) in front of the selected security profile.
5	Press Enter to open the User Security panel.
6	Set Bypass the SIGN ON panel to N updating the new administrator profile with password protection and enabling password prompting.
7	Press F6 to update the rules before exiting from the modified administrator profile. If you do not update, your changes will not be saved and the new profile will model $EPIC.
8	Press F3 to return to the Secured Users panel.
9	Tab to $DEFSEC.

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Step	Action
10	Type **U** (Update) in front of $DEFSEC.
11	Press Enter to open the new model.
12	Modify $DEFSEC to deny all system access, including security, and catalog update functions to unsecured users.
13	Create the desired group security profiles. For example, you can create a department profile named DEPT1 and provide the profile with desired catalog update access for the entire department. Using DEPT1 as your model, you can create several key departmental user IDs reflecting the same security profiles.

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TSIDMNT—DSN CATALOG MANAGEMENT UTILITY

BIM-EPIC provides the TSIDMNT program for managing the DSN Catalog. You can perform the same functions using Online Manager.

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TSIDMNT Command Summary
TSIDMNT Command List

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TSIDMNT Command Summary

TSIDMNT Commands and Functions

Description

The following table provides a list of TSIDMNT commands and their associated functions.

Command	Function
ADD	Add a version of a controlled dataset to the DSN Catalog.
ADS	Add a new version to a controlled dataset.
CAPACITY	Display DSN Catalog utilization statistics.
CATALOG	Define a new EDD in the DSN Catalog.
CLEAN	Reset tape usage, error counts, and clean date.
CLOSE	Change status of a version from open or conditionally cataloged to active.
CYCLE	Override the cycle control of a dataset.
DELETE	Remove a dataset and all associated versions from the DSN Catalog—tapes are set to scratch status.
DEQ	Dequeue the DSN Catalog.
DISPLAY	Display DSN Catalog entries including BIM-EPIC dataset definitions (EDDs), versions, and volumes.
ENQ	Enqueue the DSN Catalog.
LOCK	Lock an EDD for output or a version from input.
MCATALOG	Specify that a tape dataset can be accessed by more than one dataset name.
MOVE	Change the vault and slot locations of a tape volume.
OFFLINE	Prevent a disk volume from being accessed
ONLINE	Enable access to a disk volume.
PASSWORD	Specify or reset the system password for catalog update.
PURGE	Remove an EDD or version from the DSN Catalog. If an EDD is removed, its associated versions will be removed also. Tape volume serial numbers will also be deleted.
QUIESCE	Make a disk volume ineligible for use when creating controlled datasets.
RELEASE	Enable a locked EDD or version to be used once.
RENAME	Change the name of a controlled dataset.
RETAIN	Change the expiration date, creation date, or creation job, and/or make the version active.

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Command	Function
SCRATCH	Scratch a version of a dataset.
TRANSFER	Move a version from one dataset to another dataset.
UNLOCK	Unlock a locked EDD or version.
UPDATE	Change the attributes of a BIM-EPIC dataset definition (EDD).

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TSIDMNT Command List

TSIDMNT Command Overview

Description

TSIDMNT commands must conform to the following syntax:

command ['*dataset-name*'] [*parameter-expressions*]

The command must always be entered first and can be specified in full syntax or abbreviated to the first three letters. For example, to indicate the DISPLAY command, you can enter either DISPLAY or DIS.

Definitions

The following describes each parameter in the command syntax.

Parameter	Definition
dataset-name	Positional. When used, it must always follow the command and be enclosed in apostrophes.
parameter-expressions	Can follow in any order, except where noted otherwise. A *parameter-expression* consists of a parameter and its value(s) joined by an equal sign (=). These expressions must be separated from each other using commas or blank spaces. Numeric values are automatically zero-filled on the left, if required, eliminating the need to use leading zeros.

JCL Requirements

Use TSIDMNT to scratch datasets, as necessary, and perform other periodic catalog management tasks such as MCATALOG or CYCLE. The following example shows how to submit TSIDMNT commands.

```
[// OPTION LOG]
// EXEC TSIDMNT
control-statements
   .
   .
/*
```

BIM-EPIC Statements

Statements can be entered in columns 1 through 71 and can span up to 3 cards. To continue a statement, place a non–blank character in column 72.

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Example

The following provides an example of a command syntax.

```
ADD 'INVENTRY.FILE',                                    X
SER='IN0192,IN2323,IN2987,IN9870,IN4573,IN1029,IN3049'
```


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ADD Command

Description

ADD creates a new version to a controlled dataset. For tape versions, the volume serial number must not be in the BIM-EPIC Catalog unless the ESER parameter is used. See below for information describing the ESER parameter.

Note:
You can use CATALOG to create a new BIM-EPIC dataset definition (EDD) for a previously uncontrolled dataset. See "CATALOG Command" for additional information.

When a version is added that resides on an FSI Faketape device or if the version is a TSIDOFL-created tape backup (not an offload) of a Start Track 1 DSN, ADD must be followed by RETAIN. See the "RETAIN Command" for additional information.

You can use ADD to add a new version that was created outside BIM-EPIC control or to recatalog a deleted version. Once a dataset is controlled, all new versions created under BIM-EPIC are added to the DSN Catalog automatically.

BIM-EPIC resequences version numbers as you add new versions. For example, if you add a new version, the previous version 1 becomes version 2, version 2 becomes version 3, and so on. To add more than one version in a specific sequence, you must add the oldest version first and the newest version last.

It is possible for some versions of a tape dataset to have standard labels, while other versions are unlabeled. When you add a tape version to the DSN Catalog, the entry automatically receives the label type specified in the "owning" EDD. If a particular tape label type differs from the label for the specified EDD, use UPDATE to temporarily modify the EDD label type, then use ADD to add the new tape version. When the version has been added, you can change the EDD back to the previous label type.

If an Automated Cartridge Library (ACL) is supported, ADD sets the tape volume to non-scratch status in the ACL inventory. This is done because the version is in "active" status in the BIM-EPIC catalog.

WARNING:
If the VTOC entry for a disk dataset has been deleted, ADD does not recreate it. As long as the VTOC entry is deleted, that disk space is free and can be reused for another dataset. If this occurs, do the following tasks:

- Ensure that the disk space, previously occupied by the VTOC, has not been reused.

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- Use TSIDVUT PACKSCAN ADD to recreate the VTOC entry as soon as possible.
- Use ADD to add the version to the DSN Catalog.

Syntax

The following provides an example of the ADD command syntax.

```
ADD  'dataset-name'
      SER=volser1,volser2,....,volser23
      ESER=volser1,volser2,....,volsern
      VOL=volser,start-track,tracks,...
      EVOL=volser,start-track,tracks,...
     [ ,VER=n ]
     [ ,GEN=n ]
     [ ,FIL=n ]
     [ ,BLK=n ]
     [ ,OFL=1 ]
```

Parameters

The following provides a description of the parameters you can use with ADD.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
Specify one of the following (required):			
SER (or ESER)	No	1 to 6 characters	None
VOL (or EVOL)	No	1 to 6 characters	None
Specify one of the following (optional):			
VER	No	1 to 999	1
GEN	No	1 to 999999	None
Specify any combination of the following (optional):			
FIL	No	2 to 255	None
BLK	No	1 to 65535|MAX|OPT	None
OFL	No	1	None

Definitions

The following provides definitions for the parameters you can use with ADD.

Parameter	Definition
dataset-name	Specifies the name of the dataset that will contain the new version.
SER/ESER	Use for tape versions. Specifies the volume serial number(s) on which this version is written. Specify the volume serial numbers of multi–volume datasets in reel sequence order. Use the ESER parameter instead of SER when a version is written on more than 23 tapes. You can also use ESER to add tapes to a version that is already in the DSN Catalog.

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Parameter	Definition
VOL/EVOL	Use for disk versions. Specifies the extents the version occupies. The volume serial number specifies the volume that contains the extent. VOL subparameters are positional. If there are multiple extents, repeat the subparameters in extent sequence. Use EVOL instead of VOL if the version has more than 10 extents. You must also use EVOL to add extents to a version that is already in the DSN Catalog. Supply extent information using the same process as VOL. **Note:** For both VOL and EVOL, TSIDMNT does not access the disk volume(s) to determine whether the version exists or whether the extents match the extents you specify.
VER	Use to assign a specific version number to the dataset. If VER is not specified, VER=1 is assumed.
GEN	Use to specify the absolute generation number for the dataset. You cannot use a generation number that is already assigned to an existing version. However, you can specify a previously used generation number from a version that has been deleted. To assign a new (never used) generation number, the number must be greater than the next generation number scheduled to be created. For example, if the highest current generation number, usually assigned to version 1, is 000120, specify a new generation number of 000122 or greater. The new version is always version 1.
FIL	Specifies the file sequence number if the version of a tape dataset is not the first dataset in a multi–dataset group.
BLK	Specifies the block size of the current version of the dataset. Block size options are: ■ MAX sets the block size to full track capacity for disk datasets and for tape datasets—64K for VSE/ESA 2.5 and later, or 32K for earlier VSE releases. ■ OPT sets the block size to half track capacity for disk and for tape—32K for VSE/ESA 2.5 and later, or 16K for earlier VSE releases.
OFL=1	Use to identify the version as an offload version. While it is not recommended that you purge offload datasets, you can use the OFL parameter to assign offload status to a disk dataset that has been added to the catalog.

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Examples

The following example adds version number 3 to the PAYROLL.MASTER dataset. Version 3 is on tapes PY1234 and PY2764 with a block size of 10000.

```
ADD 'PAYROLL.MASTER',VER=3,BLK=10000,SER=PY1234,PY2764
```

The following example adds version number 1 to the INVENTRY.237 dataset. Version 1 is on tape E93837.

```
ADD 'INVENTRY.237',SER=E93837
```

The ADD statement is all one line with an * at the end. The VOL statement is indented a few spaces.

The following example adds a multi-extent disk file. It does NOT create the VTOC entry. Use TSIDVUT PACKSCAN as described above to complete this task.

```
ADD 'PAYROLLTEST' VER=1 BLK=18620                       *
    VOL=CKD001,45,90,CKD001,165,300
```


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ADS Command

Description

ADS adds a new tape version to a controlled dataset. The volume serial numbers (volsers) must be in the BIM-EPIC catalog and in scratch status to use the ADS command.

ADS cannot be used for Faketape volume serial numbers. Use PURGE and ADD to accomplish the desired action.

BIM-EPIC resequences version numbers as you add new versions. For example, if you add a new version, the previous version 1 becomes version 2, version 2 becomes version 3, and so on. To add more than one version in a specific sequence, you must add the oldest version first, then the newest version last.

It is possible for some versions of a tape dataset to have standard labels, while other versions are unlabeled. When you add a tape version to the DSN Catalog, the entry automatically receives the label type in the BIM-EPIC dataset definition (EDD). If a particular tape label type differs from the EDD label type, use UPDATE to modify the EDD label type temporarily. You can use ADS to add the new tape version and then change the EDD back to the previous label type.

If an Automated Cartridge Library (ACL) is supported, ADD sets the tape volume to non-scratch status in the ACL inventory.

Syntax

The following provides an example of the ADS command syntax.

```
ADS  'dataset-name' -
      SER=volser1,volser2,....,volser23
      ESER=volser1,volser2,....,volsern
     [ ,VER=n ]
     [ ,GEN=n ]
     [ ,FIL=n ]
     [ ,BLK=n ]
     [ ,OFL=1 ]
```

Parameters

The following provides a description of the parameters you can use with ADS.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
Specify one of the following (required):			
SER	No	1 to 6 characters	None
ESER	No	1 to 6 characters	None
Specify one of the following (optional):			
VER	No	1 to 999	1
GEN	No	1 to 999999	None

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Parameter	Required?	Valid Entry	Default
Specify any combination of the following (optional):			
FIL	No	2 to 255	None
BLK	No	1 to 65535|MAX|OPT	None
OFL	No	1	None

Definitions

The following provides definitions for the parameters you can use with ADS.

Parameter	Definition
dataset-name	Specifies the name of the dataset to which the new version belongs.
SER/ESER	Specifies the tape volume serial number(s) on which this version is written. Specify the volume serial numbers of multi–volume datasets in reel sequence order. Use the ESER parameter instead of SER when a version is written on more than 23 tapes. You can also use ESER to add tapes to a version that is already in the DSN Catalog.
VER	Use to assign a specific version number to the dataset. If VER is not specified, VER=1 is assumed.
GEN	Use to specify the absolute generation number for the dataset. You cannot use a generation number that is already assigned to an existing version. However, you can specify a previously used generation number from a version that has been deleted. To assign a new (never used) generation number, the number must be greater than the next generation number scheduled to be created. For example, if the highest current generation number is 000120, specify a new generation number of 000122 or greater. The new version is always version 1.
FIL	Specifies the file sequence number if this version of a tape dataset is not the first dataset in a multi–dataset group.

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Parameter	Definition
BLK	Specifies the block size of this version of the dataset. Block size options include: ■ MAX sets the block size to full track capacity for disk datasets and for tape datasets—64K for VSE/ESA 2.5 and later, or 32K for earlier VSE releases. ■ OPT sets the block size to half track capacity for disk and for tape—32K for VSE/ESA 2.5 and later, or 16K for earlier VSE releases.
OFL=1	Use to identify the version as an offload version. While it is not recommend that you purge offload datasets, the OFL parameter can be used to assign offload status to a disk dataset that has been added to the catalog.

Examples

The following example adds version number 3 to the PAYROLL.MASTER dataset. Version 3 is on tapes PY1234 and PY2764, with a block size of 10000.

```
ADS 'PAYROLL.MASTER',VER=3,BLK=10000,SER=PY1234,PY2764
```

The following example adds version number 1 to the INVENTRY.237 dataset. Version 1 is on tape E93837.

```
ADS 'INVENTRY.237',SER=E93837
```


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CAPACITY Command

Description

CAPACITY displays DSN Catalog usage. The DSN Catalog usage is displayed as both the number of active/free records and as a percentage of catalog space.

Syntax

The following provides an example of the CAPACITY command syntax.

```
CAPACITY  (no parameters)
```

Example

The following is an example of a CAPACITY display.

```
119 TOTAL      CATALOG UTILIZATION    INDEX UTILIZATION
119 CAPACITY   ACTIVE   FREE   PCT    ACTIVE   FREE    PCT
119 4560       959      3601   21     560      4000    12
```


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CATALOG Command

Description

CATALOG creates a new BIM-EPIC dataset definition (EDD) in the DSN Catalog. After the EDD has been created, versions can be created by running jobs that specify this dataset name in JCL or by using ADD.

Syntax

The following provides an example of the CATALOG command syntax.

```
CATALOG      'dataset-name'
             [ ,AGP=YES|NO ]
             [ ,ALR=n ]
             [ ,BLK=n|MAX|OPT]
             [ ,CIZ=n]
             [ ,COM='comment' ]
             [ ,COP='existing-dataset-name' ]
             [ ,CYC=n ]
             [ ,DEC=NO|password ]
             [ ,DLA=n ]
             [ ,EX2=n ]
             [ ,EXT=n ]
             [ ,LBL=YES|NO ]
             [ ,MOD=<see mode table below> ]
             [ ,NSU='prime-dataset-name' ]
             [ ,OWN=xx ]
             [ ,POL=poolname ]
             [ ,PWD=password ]
             [ ,RET=n|PERM ]
             [ ,REV=NO|YES ]
             [ ,SEC=NO|n ]
             [ ,SID=NO|xx ]
             [ ,SIZ=SMALL|LARGE ]
             [ ,SYSnnn ]
             [ ,TPA=NO|YES ]
             [ ,TPL=x|NO ]
             [ ,UID=NO|xx ]
             [ ,VLT=n ]
             [ ,WRK=NO|YES ]
```

There are two additional parameters. They can only be used in the UPDATE command, but are listed here for the sake of "completeness." Please refer to the UPD section for their descriptions.

The parameters are:

- DPW - Password for use with ENC
- ENC - Encryption type

Parameters

The following provides a description of the common parameters you can use with CATALOG.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters or if Generation – 1-35	None
BLK	No	NO|1 to 65535|MAX|OPT	NO

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Parameter	Required?	Valid Entry	Default
COM	No	1 to 30 characters	None
COP	No	1 to 44 characters	None
CYC	No	0 to 999	None
DLA	No	1 to 9999	None
PWD	No	1 to 8 characters	NO
RET	No	1 to 9999|PERM	None
SID	No	NO|2 characters	NO
SYSnnn	No	000 to 253	000
UID	No	NO|2 characters	NO
WRK	No	YES|NO	NO

Definitions

The following provides definitions for the common parameters you can use with CATALOG.

Parameter	Definition
dataset-name	Use to locate a BIM-EPIC dataset definition (EDD) in the DSN Catalog. The dataset name must be unique. Generation dataset names can be a maximum of 35 characters long. BIM-EPIC uses the trailing nine characters for the Generation Number. **Note:** When adding CPU and partition–independent datasets, the dataset name must contain the specific CPU and partition IDs. For example, to use the dataset name ===.SORTWK1 on a DLBL in a job that will run on CPU 4 in the BG partition, specify the dataset name BG4.SORTWK1. You might want to consider using Common Work Datasets (CWDS) instead. CWDS require only one definition instead of one definition per partition and per CPU. For example, $$$.SORTWK1 will create a uniquely-identified work dataset name in any CPU/partition combination.
BLK	Specifies the maximum output file block size to be used. When the file is opened for output, the actual block size used will be the largest possible value not exceeding the BLK value. This parameter is mutually exclusive with the disk CIZ parameter. If both parameters are specified for the same dataset definition, the last parameter specified will be used.
COM	Use to make comment notes about the use of a dataset. The comment can be deleted by specifying COM=' '.

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Parameter	Definition
COP	Use to define a new dataset that is similar to a previously cataloged dataset. You must specify the COP parameter immediately following the dataset name. Any parameters specified before the COP parameter will be ignored. You can specify additional parameters after the COP parameter if you need to change the copied attributes.
CYC	Specifies the number of cycles (versions) to retain. See the note below for additional information.
DLA	Specifies the number of days to retain the dataset after its last access date. See the note below for additional information.
PWD	Use to: ■ Protect the dataset from unauthorized UNLOCK or RELEASE actions. ■ Allow the UPDATE ENC parameter to be specified. For details refer to the UPDATE command later in this chapter. If NO is specified, UNLOCK and RELEASE actions are not restricted and an encryption algorithm cannot be specified. If a password is specified, UNLOCK and RELEASE actions require the password to be specified, and if the BIM-EPIC Dr.Crypto feature is used, an encryption algorithm can be specified with the ENC parameter of the UPDATE command.
RET	Specifies the number of days to retain the dataset after its creation date. See the note below for additional information.
SID and UID	Use to group a dataset with other datasets for catalog functions. If you specify SID=NO or UID=NO, the ID is inactive.
SYS*nnn*	Specifies a logical unit number to use for the dataset. Using the SYS*nnn* parameter inhibits the BIM-EPIC automatic LUB allocation feature. If you specify SYS000, BIM-EPIC will select the LUB to be used. In modern VSE this facility is rarely needed. The default 000 is recommended.
WRK	Specifies whether this is a generation dataset (WRK=NO) or a non–generation dataset (WRK=YES). See the note below for additional information.

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Note:
RET, CYC, DLA, and WRK (Retention Days, Cycles Retention, DLA Retention, and Generation or Work) work together to determine dataset retention. These are some of the most important attributes of any dataset. You must carefully make your selection. RET, CYC, and DLA criteria must be satisfied before a version can be automatically scratched by TSIDUTL SCRATCH.

Parameters

The following provides a description of the tape parameters you can use with CATALOG.

Parameter	Required?	Valid Entry	Default
DEC	No	1 to 8 characters	None
LBL	No	YES|NO	YES
MOD	No	<see mode table below>	None
NSU	No	1 to 17 characters	None
OWN	No	1 to 2 characters	None
REV	No	YES|NO	NO
SIZ	No	LARGE|SMALL	LARGE
TPA	No	YES|NO	NO
TPL	No	1 character	NO
VLT	No	1 to 255	None

Definitions

The following provides definitions for the tape parameters you can use with CATALOG.

Parameter	Definition
DEC	Use to enter an encryption password if the tape version data is to be encrypted by BIM-EPIC at the time of creation. The encryption password cannot be added, changed, or deleted once it is entered in a BIM-EPIC dataset definition. This password will not be re-entered at anytime after the initial entry.
LBL	Specifies how a tape is labeled. Indicate LBL=NO for unlabeled. Indicate LBL=YES for standard labeled.

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Parameter	Definition
MOD	Specifies the tape density. ■ densities supported for 3480/3490 devices: 00—Buffered write mode 08—Buffered write mode with IDRC 20—Unbuffered write mode 28—Unbuffered write mode with IDRC ■ densities supported for 8809/9347 devices: 30—High speed / short gap 50—Low speed / long gap 60—Low speed / short gap 90—High speed / long gap ■ densities supported for 3424/9348 devices: 42—Buffered write mode 1600 bpi 62—Unbuffered write mode 1600 bpi C2—Buffered write mode 6250 bpi E2—Unbuffered write mode 6250 bpi ■ densities supported for 3410/3420/3422/3430 devices: D0—6250 bpi C0—1600 bpi C8—800 bpi ■ densities supported for 3490E devices: F0—Buffered write mode (3490E) F8—Buffered write mode with IDRC (3490E) Internally, BIM-EPIC uses modes F0 and F8 to distinguish 3490E tape cartridge drives from 3480/3490. Because VSE/ESA does not recognize these modes, BIM-EPIC sends mode 00 or mode 08 to the 3490E tape cartridge drives whenever mode F0 or mode F8 is specified. ■ densities supported for 3590 TPA devices: 00-07—Buffered model dependent formats 08-0F—Buffered compressed model dependent formats 20-27—Unbuffered, like densities 00-07 28-2F—Unbuffered, like densities 08-0F Density 08 should be used for performance reasons. The following coding must be used for 3592 devices: `TPA=YES MOD=31`

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Parameter	Definition
NSU	Specifies the dataset tape versions are part of a multi–dataset group. You must enter the name of first dataset on the tape. This dataset is referred to as the prime dataset elsewhere in BIM-EPIC documentation. The datasets that specify NSU are referred to as subdatasets. If used, the NSU parameter must be specified when the dataset is first cataloged. BIM-EPIC does not allow the addition of a prime dataset name to an existing BIM-EPIC dataset definition.
OWN	Specifies the Owner ID. If you specify a tape pool, make sure the Owner ID falls within the tape pool range. If you specify OWN=NO, no Owner ID is used.
REV	Regulates tape selection for output tapes. Revolving tape volumes and revolving tape datasets have an exclusive relationship. A revolving tape volume can be used only for the dataset it is assigned to. A revolving tape version can be written only on tape volumes that are assigned to the revolving dataset via the ADD or ADS function. If you use ADD to assign a volume to the dataset, the volume must then be set to scratch status before it can be used for output. Revolving tape datasets cannot be used in an Automated Cartridge Library (ACL).
SIZ	Specifies a tape size.
TPA	Specifies whether versions are to be written to and read from TPA device types. Specify TPA=NO for non-TPA devices. Specify TPA=YES for TPA devices. If MOD is set for a TPA device, TPA=YES must be coded before the MOD parameter.
TPL	Specifies a tape pool ID.
VLT	Specifies a vault method number if this dataset name is to participate in the BIM-EPIC Vaulting facility.

Parameters

Although disk information is meaningful only to BIM-EPIC, disk information can be updated from CA-EPIC for CMS. The following provides a description of the disk parameters you can use with CATALOG.

Parameter	Required?	Valid Entry	Default
AGP	No	Yes or NO	NO
ALR	No	1 to 99999	None
CIZ	No	NO|512 to 32768	None

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Parameter	Required?	Valid Entry	Default
EXT	No	1 to 999999	DEFEXT value
EX2	No	0 to 999999	50% of EXT
POL	No	1 to 6 characters	None or DEFPOL value
SEC	No	0 to 255	255

Definitions

The following provides definitions for the disk parameters you can use with CATALOG.

Parameter	Definition
AGP	Specifies if dataset retention is controlled by the Automatic Generation Purge feature.
ALR	Specifies that disk space allocation for a version is done on the basis of the number of logical records expected to be written. Specifying allocation by the number of logical records overrides the primary extent size indicated by the EXT parameter, if both parameters are specified. ALR cannot be used if files are created under DTFPH conditions (Physical IOCS).
CIZ	Specifies the desired control interval size used when allocating an FBA DASD file. You should avoid this parameter when using CKD DASD files.The CIZ value specified will be adjusted to an even multiple of 512. In addition, CIZ will override reblocking and is mutually exclusive with BLK. If both parameters are specified for the same dataset definition, the last parameter specified will be used.
EXT	Specifies the primary extent size in blocks or tracks. The minimum size is 3 tracks for CKD devices or the value specified in the CIZ parameter for FBA devices. If the default extent configuration option (DEFEXT=) is set to a non-zero value for your installation, you can use that setting as a default primary extent and omit the EXT parameter in the EDD definition.
EX2	Specifies the secondary extent size which defaults to half of the size of the primary extent. The minimum extent size is three tracks for CKD devices or the value specified in the CIZ parameter for FBA devices.
POL	Specifies a disk pool name if disk versions are to be created. Only disk pool names defined in the TSIDPOL macro can be used. If the default disk pool configuration option is (DEFPOL=) for your installation, you can use that setting as a default disk pool and omit the POL parameter in the EDD definition.

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Parameter	Definition
SEC	Specifies the maximum number of secondary extents that can be allocated for a version. If SEC=NO (default) is specified, 255 secondary extents are allowed. To inhibit all secondary allocations, specify SEC=0 (zero).

Examples

The following example catalogs the PAYROLL.MASTER dataset. This example includes copying dataset attributes from the AP.MASTER dataset and changing the dataset password to PASSWORD.

```
CATALOG 'PAYROLL.MASTER',COP='AP.MASTER',PWD='PASSWORD'
```

The following example catalogs the BALANCE.BUDGET dataset. This example includes setting day retention to 3 and setting days last accessed retention to 3. Disk datasets are written in disk pool POOLA1 with a primary extent size of 20 and maximum secondary extents of 3.

```
CAT 'BALANCE.BUDGET',RET=3,DLA=3,POL=POOLA1,EXT=20,SEC=3
```

The following example results in BIM-EPIC retaining three versions of the BALANCE.BUDGET dataset at all times. When a new version is created, the oldest version is automatically deleted at end–of–job.

```
CAT 'BALANCE.BUDGET',CYC=3,AGP=YES...
```


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CLEAN Command

Description

CLEAN records tape cleaning. CLEAN sets the use count and error count for cleaned tapes to zero (0).

Syntax

The following provides an example of the CLEAN command syntax.

```
CLEAN  SER=volser1,volser2,...
```

Parameters

The following provides a description of the parameters you can use with CLEAN.

Parameter	Required?	Valid Entry	Default
`volser`*n*	Yes	1 to 6 characters	None

Definition

The following provides the definition for the parameter you can use with CLEAN.

Parameter	Definition
`volser`*n*	Specifies the volume serial numbers of the cleaned tapes.

Example

The following example records the cleaning of tapes A38472, A94874, and 857594.

```
CLEAN SER=A38472,A94874,857594
```


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CLOSE Command

Description

CLOSE changes only the DSN Catalog status of a version. CLOSE does not perform VSE close processing, such as writing tape or disk labels.

BIM-EPIC accesses only active versions of a dataset. Datasets that are in open status or conditionally cataloged status cannot be accessed for reading and writing. Closed datasets become eligible for scratch differently than active datasets. To access or activate an open or conditionally cataloged dataset, you must use CLOSE.

Depending on the program processing condition that caused the Open or Conditionally Catalog status to occur, data on the closed version may be incomplete. If this is the case, the version should be scratched immediately after closing to prevent accidental use as input.

If an Automated Cartridge Library (ACL) is supported, CLOSE sets the tape volume to non–scratch status in the ACL inventory.

Syntax

The following provides an example of the CLOSE command syntax.

```
CLOSE  'dataset-name' [ ,SER=volser ] [ ,GEN=nnn ]
```

Parameters

The following provides a description of the parameters you can use with CLOSE.

Parameter	Required?	Valid	Default
dataset-name	Yes	1 to 44 characters	None
SER	No	1 to 6 characters	None
GEN	No	1 to 999999	None

Definitions

The following provides definitions for the parameters you can use with CLOSE.

Parameter	Definition
dataset-name	Specifies the name of the dataset.
SER	Specifies the tape volume serial number.
GEN	Specifies the generation number of a disk dataset.

If neither SER nor GEN is specified, BIM-EPIC closes the most recently created version of the dataset.

Example

The following example closes the BATCH.BALANCE dataset.

```
CLOSE 'BATCH.BALANCE'
```


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CYCLE Command

Description

CYCLE is a special command for overriding the normal Cycles Retention (CYC) of a dataset. CYCLE causes one version to be removed from the Cycles Retention logic. The cycled version is scratched only on the basis of the retention period. For example, you might use the cycled version to isolate the correct balance sheet from a series of trial balance runs.

CYCLE looks very similar to RETAIN. Both commands affect a single version, but a retained version continues to participate in any cycle retention that is defined for the dataset, while a cycled version does not.

When you use CYCLE, the version is:

- Removed from Cycles Retention for the dataset. As a result, the version no longer counts as a version in the cycle retention logic.
- Retained until the expiration date you specify.

For example, if the dataset has CYC=3 retention and you CYCLE one version, BIM-EPIC maintains four versions until the cycled version reaches its expiration date, the cycled version plus three normal versions.

Versions which have been cycled in the past are retained until their expiration date.

CYCLE also allows you to change the creation date and the creation job name. These two fields have no effect on dataset retention.

If ENC has been used to specify an encryption algorithm for this dataset, CYCLE will not change the Creation Date or Job Name. See UPDATE Command for additional information.

Syntax

The following is an example of the CYCLE command syntax.

```
CYCLE  'dataset-name',{VER=n|SER=volser|GEN=n}
{,EXD=yyyyddd|,DAY=n|,CDT=yyyyddd|,JOB=new-name}
```

Parameters

The following provides a description of the parameters you can use with CYCLE.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
Specify one of the following (required):			
VER	No	1 to 999	None
SER	No	1 to 6 characters	None
GEN	No	1 to 999999	None

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Parameter	Required?	Valid Entry	Default
Specify at least one of the following (required):			
EXD	No	1900001 to 2099366	None
DAY	No	1 to 999	None
CDT	No	1900001 to 2099366	None
JOB	No	1 to 8 characters	None

Definitions

The following provides definitions for the common parameters you can use with CATALOG.

Parameter	Definition
dataset-name	Specifies the dataset name.
VER	Specifies the version number.
SER	Specifies the volume serial number of the first (or only) volume of a tape version.
GEN	Specifies the generation number of a disk version.
EXD	Specifies the new expiration date of the cycled version. If neither an expiration date nor period retention is specified, the version is retained according to the period retention established in the dataset defaults. Dates should be specified in Julian format with a 4–digit year followed by a 3–digit day, for example January 1, 2005 would be entered as 2005001.
DAY	Specifies period retention. BIM-EPIC calculates the expiration date as the current date plus the number of days entered.
CDT	Specifies a new creation date. CDT has no effect on when a dataset expires. Dates should be specified in Julian format with a 4–digit year followed by a 3–digit day, for example January 1, 2005 would be entered as 2005001.
JOB	Changes the name of the job that created the associated version. JOB has no effect on when a dataset expires.

Example

The following example cycles the AGED.TRIAL.BALANCE dataset, setting apart version 3 with a 7–day retention and changing the creating job name to TRIALBAL.

```
CYCLE 'AGED.TRIAL.BALANCE',VER=3,DAY=7,JOB=TRIALBAL
```


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DELETE Command

Description

DELETE removes a dataset and all associated versions from the DSN Catalog and from BIM-EPIC control. All tapes associated with the dataset become scratch tapes and are listed under the dataset name ** DSN DELETED ** on BIM-EPIC reports and Online Manager panels. Disk space allocated to the dataset is freed.

If an Automated Cartridge Library (ACL) is supported, DELETE sets the tape volume to scratch status in the ACL inventory.

WARNING:
Encrypted datasets must not be deleted from the DSN Catalog if you ever plan to use them again as input. Once an encrypted dataset definition is deleted, it cannot be decrypted and will be unreadable.

Syntax

The following provides an example of the DELETE command syntax.

```
DELETE  'dataset-name
```

Parameters

The following provides a description of the parameters you can use with DELETE.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None

Definition

The following provides definitions for the common parameters you can use with CATALOG.

Parameter	Definition
dataset-name	Specifies the dataset name to be deleted.

Example

The following example deletes the dataset AP.BATCH.BALANCE.TEST.

```
DEL 'AP.BATCH.BALANCE.TEST'
```


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DEQ Command

Description

DEQ dequeues the DSN Catalog after it has been enqueued with ENQ.

In CA-EPIC for CMS, the DEQ command is only meaningful when sharing a BIM-EPIC DSN Catalog.

Syntax

The following provides an example of the DEQ command syntax.

```
DEQ  (no parameters)
```


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DISPLAY Command

Description

DISPLAY displays entries in the DSN Catalog. DISPLAY lists all cataloged information about a dataset and all associated versions. If a version resides on multiple volumes or extents, each volume or extent has a separate line in the display. Scratched tape versions continue to be displayed until the tapes are used to write other datasets.

Most of the items listed in the reports are self–explanatory. However, the ST (file status) column heading and the TYPE (file type) column heading require additional explanation.

The ST column displays codes indicating the status of a dataset. The valid status codes are:

- (blank) specifies active version.
- C specifies conditional catalog status.
- L specifies active version in a locked status.
- M specifies MCAT version.
- O specifies open status.
- S specifies scratch status.

The TYPE column lists dataset types. There are three dataset types:

- TAPE and DISK specify the type of media used.
- EMPTY specifies that the dataset has been cataloged, but contains no versions.

A dataset is empty when it is first cataloged, before any versions are created. A dataset can also be empty if all associated versions have been scratched and all tapes have been reused.

Syntax

The following provides an example of the DISPLAY command syntax.

```
DISPLAY   {'dataset-name'|SER=volser|ALL|'string.ALL'}

   [ ,ACTIVE ]
   [ ,DSK | TAP ]
   [ ,DSN ]
   [ ,JOB=creation-jobname ]
   [ ,NEW ]
   [ ,POL=poolname ]
   [ ,PULL ]
   [ ,SCRATCH ]
   [ ,SID=xx ]
   [ ,UID=xx ]
```


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Parameters

The following provides a description of the parameters you can use with DISPLAY.

Parameter	Required?	Valid Entry	Default
Specify one of the following (required):			
dataset-name [*DPW=password*]	No	1 to 44 characters [1-8 characters]	None
SER	No	1 to 6 characters	None
ALL	No	ALL	None
string.ALL	No	1 to 44 characters	None
Specify one of the following (optional):			
DSK	No	DSK	OFF
TAP	No	TAP	OFF
Specify any combination of the following (optional):			
ACTIVE	No	ACTIVE	OFF
DSN	No	DSN	OFF
JOB	No	1 to 8 characters	None
NEW	No	NEW	OFF
POL	No	1 to 8 characters	None
PULL	No	PULL	OFF
SCRATCH	No	SCRATCH	OFF
SID	No	2 characters	None
UID	No	2 characters	None

Definitions

The following provides definitions for the parameters you can use with DISPLAY.

Parameter	Definition
dataset-name [*DPW=password*]	Requests a detailed display of the dataset named. If the dataset version has been encrypted with the BIM-EPIC Dr.Crypto feature, DPW=password will display the encryption method that was specified by the UPDATE ENC parameter. The password used in DPW must be the same as the password specified in the PWD parameter. See CATALOG Command for additional information.
SER	Requests a detailed display of the contents for the tape volume specified.
ALL	Requests a summary display of all datasets and entries in the DSN Catalog. ALL is the default when you specify any optional parameters.
string.AL	Requests a summary display of all datasets beginning with the specified character string.

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Parameter	Definition
ACTIVE	Displays only active versions.
DSK	Displays only disk versions.
DSN	Displays only dataset names, set summaries are omitted.
JOB	Displays the latest version of all datasets that were created by the specified job name. JOB also displays any open or conditionally cataloged datasets created by that job since the latest version was created.
NEW	Displays all datasets that have been created since the last execution of TSIDUTL DSPLY NEW.
POL	Displays only datasets from the specified disk pool.
PULL	Displays only the latest version. Place PULL after the ALL parameter or *string*.ALL parameter, for example: DIS 'PB.PAY.ALL',PULL.
SCRATCH	Displays only scratch tapes.
SID	Displays only those datasets with the specified system ID. If used, the SID parameter or UID parameter must be the last parameter in the command.
TAP	Displays only tape versions.
UID	Displays only those datasets with the specified user ID. If used, the SID parameter or UID parameter must be the last parameter in the command.

Examples

The following example produces a summary display of all active datasets with the creation job name of AR8000.

```
DISPLAY ALL,ACTIVE,JOB=AR8000
```

The following example produces a summary display of all the scratched versions of datasets that begin with the character string SDR3.

```
DIS 'SDR3.ALL',SCRATCH
```

The following example displays a detailed display of the AP.BALANCE dataset.

```
DIS 'AP.BALANCE'
```


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ENQ Command

Description

ENQ enqueues the DSN Catalog and prevents access to the catalog by jobs running in other partitions or CPUs. To enqueue a DSN Catalog that is shared by two or more CPUs, you must specify MULTCPU=YES as a configuration option.

In CA-EPIC for CMS, ENQ is meaningful only when sharing a BIM-EPIC DSN Catalog.

Syntax

The following provides an example of the ENQ command syntax.

```
ENQ  (no parameters)
```


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LOCK Command

Description

LOCK locks a dataset or version. If you do not specify a version, volume serial number, or generation number, the BIM-EPIC dataset definition (EDD) is locked for output. BIM-EPIC does not permit additional versions to be created until you release or unlock the EDD. If you do specify a version, volume serial number, or generation number, only that version of the dataset is locked for input, which means that the version cannot be read until you release or unlock it.

Syntax

The following provides an example of the LOCK command syntax.

```
LOCK  'dataset-name'   [VER=n|SER=volser|GEN=n]
```

Parameters

The following provides a description of the parameters you can use with LOCK.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
Specify one of the following (optional):			
VER	No	1 to 999	None
SER	No	1 to 6 characters	None
GEN	No	1 to 999999	None

Definitions

The following provides definitions for the parameters you can use with LOCK.

Parameter	Definition
dataset-name	Specifies the name of the dataset to be locked.
VER	Specifies the version number.
SER	Specifies the volume serial number of the first (or only) volume of a tape version.
GEN	Specifies the generation number of a disk version.

Example

The following example locks all versions of the PAYROLL.MASTER dataset. New versions cannot be created.

```
LOCK 'PAYROLL.MASTER'
```

The following example locks only version 1 of the 'PAYROLL.MASTER' dataset. This version cannot be accessed for input.

```
LOC 'PAYROLL.MASTER',VER=1
```


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MCATALOG Command

Description

MCATALOG specifies that a tape dataset can be accessed by more than one dataset name. The new dataset names are known as MCAT aliases. After MCATALOG has been specified for a version, the version is accessible by both the original dataset name and the MCAT alias(es). The dataset is retained until all retention criteria from all associated BIM-EPIC dataset definitions (EDDs) have been satisfied. You can use MCATALOG to create special retention for a tape version. However, you cannot use MCATALOG for subdatasets. When a display of datasets in volume serial number sequence is requested, only the original dataset names are displayed. MCAT aliases are not displayed.

Syntax

The following provides an example of the MCATALOG command syntax.

```
MCAT   'from-dataset-name' {,VER=from-ver|SER=from-ser},
       'to-dataset-name' [ ,VER=to-ver ]
```

Parameters

The following provides a description of the parameters you can use with MCATALOG.

Parameter	Required?	Valid Entry	Default
from-dataset-name	Yes	1 to 44 characters	None
Specify one of the following (required):			
from-ver	No	1 to 999	None
from-ser	No	1 to 6 characters	None
Specify the following:			
to-dataset-name	Yes	1 to 44 character	None
to-ver	No	1 to 999	1

Definitions

The following provides definitions for the parameters you can use with MCATALOG.

Parameter	Definition
from-dataset-name	Specifies the name of the original dataset.
from-ver	Specifies the version number of the original dataset.
from-ser	Specifies the volume serial number of the first (or only) volume of the original dataset.
to-dataset-name	Specifies the MCAT alias.
to-ver	Specifies the version number of the MCAT alias.

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Note:
Only MCAT parameters are positional.

Example

The following example associates version 2 of the PAYROLL.MASTER dataset to version 1 of the PAYROLL.PERM dataset, so the version can be accessed using either dataset name.

```
MCA 'PAYROLL.MASTER',VER=2,'PAYROLL.PERM',VER=1
```


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MOVE Command

Description

MOVE changes the vault location and slot location of a tape volume. If a non-virtual Automated Cartridge Library (ACL) is supported and the tape is moved from the main vault (Vault 0), the volume is ejected from the ACL at the time MOVE is processed. MOVE is of no value for a virtual ACL because virtual tapes cannot be vaulted. Examples of virtual ACLs include VTS, Faketape, MAS, and Opti-Tape.

WARNING:
Vaulting reports do not reflect changes done by MOVE. If any dataset on the volume is controlled by automatic vaulting, the vaulting program will undo the MOVE changes and will return the tape to its original place in the rotation.

Syntax

The following provides an example of the MOVE command syntax.

```
MOVE  SER=volser,vault,slot
```

Parameters

The following provides a description of the parameters you can use with MOVE.

Parameter	Required?	Valid Entry	Default
volser	Yes	1 to 6 characters	None
vault	Yes	1 to 255	None
slot	Yes	1 to 9999	None

Definitions

The following provides definitions for the parameters you can use with MOVE.

Parameter	Definition
volser	Specifies the volume serial number of the tape to be moved.
vault	Specifies the new vault number where the tape will reside.
slot	Specifies the new slot number where a tape will reside.

Example

The following example moves tape AP3847 to vault 6, slot 234.

```
MOV SER=AP3847,6,234
```


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OFFLINE Command

Description

OFFLINE prevents BIM-EPIC from accessing a disk volume. When a volume is in OFFLINE status, BIM-EPIC will not use the volume for input or output actions. OFFLINE cannot disable volume access across machines. You must issue the OFFLINE command from each machine that has access to the device. If it is necessary to issue a VSE DVCDN command to a drive, the BIM-EPIC OFFLINE command should be issued first.

Use ONLINE to restore BIM-EPIC access to a volume that has been declared OFFLINE. See “QUIESCE Command” for additional information.

Syntax

The following provides an example of the OFFLINE command syntax.

```
OFFLINE volser
```

Parameters

The following provides a description of the parameters you can use with OFFLINE.

Parameter	Required?	Valid Entry	Default
volser	Yes	1 to 6 characters	None

Definition

The following provides definitions for the parameters you can use with OFFLINE.

Parameter	Definition
volser	Specifies the serial number of the volume you want to remove from BIM-EPIC access.

Example

The following example removes the disk volume SYSWK1 from BIM-EPIC access.

```
OFFLINE SYSWK1
```


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ONLINE Command

Description

ONLINE enables BIM-EPIC to access a disk volume for both input and output datasets. If a disk volume has been placed in OFFLINE status or QUIESCE status, use ONLINE to restore access to the volume. ONLINE cannot enable a volume across machines. You must use the ONLINE command for each machine in which the OFFLINE command was used.

See “OFFLINE Command ” for additional information.

Syntax

The following provides an example of the ONLINE command syntax.

```
ONLINE volser
```

Parameters

The following provides a description of the parameters you can use with ONLINE.

Parameter	Required?	Valid Entry	Default
volser	Yes	1 to 6 characters	None

Definition

The following provides definitions for the parameters you can use with OFFLINE.

Parameter	Definition
volser	Specifies the serial number of the volume you want to place online.

Example

The following example gives BIM-EPIC access to disk volume SYSWK2.

```
ONLINE SYSWK2
```


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PASSWORD Command

Description

PASSWORD enables you to enter the required password if your installation uses the PASSWD configuration option to invoke DSN Catalog update protection. The DSN Catalog password is required for all commands except for the following commands:

- CAPACITY
- DISPLAY
- HELP
- PASSWORD

You must submit the PASSWORD command before any protected operation. The password is not printed on SYSLST if the command name (PASSWORD or PAS) begins in column 1. The password is cleared when the program ends.

Example

The following is an example of the PASSWORD command syntax.

```
PASWORD LOLLIPOP
```


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PURGE Command

Description

PURGE removes BIM-EPIC dataset definitions (EDDs), versions, and tape volume serial numbers from the DSN Catalog. With PURGE, you can delete an entire dataset and all associated versions (tape and disk) or simply remove a tape volume and the associated versions.

Datasets which are part of a multi–dataset group cannot be purged until all other datasets in the group are scratched or deleted. In addition, all versions must be in closed status before they can be purged.

If an Automated Cartridge Library (ACL) is supported, PURGE sets the tape volume to scratch status in the ACL inventory.

WARNING:
Do not use this command for routine deletion of datasets.

When a tape volume is purged, BIM-EPIC does not attempt to determine whether it is a valid scratch tape. For this reason, use this command only when a physical tape volume is destroyed or permanently removed from your installation.

Encrypted dataset versions must not be purged from the DSN Catalog. Once information about an encrypted version is deleted, it cannot be decoded and is forever unreadable.

Syntax

The following provides an example of the PURGE command syntax.

```
PURGE   {'dataset-name'|SER=volser1,volser2,...}
```

Parameters

The following provides a description of the parameters you can use with PURGE.

Parameter	Required?	Valid Entry	Default
Specify one of the following (required):			
dataset-name	No	1 to 44 characters	None
SER	No	1 to 6 characters	None

Definitions

The following provides definitions for the parameters you can use with PURGE.

Parameter	Definition
dataset-name	Specifies a dataset name when you want to delete an EDD and all associated versions from the DSN Catalog. The dataset is no longer controlled.

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Parameter	Definition
SER	Specifies a tape volume serial number when you want to remove that serial number from the DSN Catalog but leave the dataset under BIM-EPIC control. If the volume serial number contains non–alphanumeric characters, enclose the volume serial number in apostrophes.

Examples

The following example purges PAYROLL.TABLE and all associated tape volumes.

```
PURGE 'PAYROLL.TABLE'
```

The following example purges volume PR3746 and the version written on it.

```
PUR SER=PR3746
```


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QUIESCE Command

Description

QUIESCE prevents disk volumes from being used for the creation of controlled datasets. BIM-EPIC will not allocate output datasets on a quiesced volume. Quiesced volumes are still eligible for BIM-EPIC input processing and for uncontrolled processing. QUIESCE cannot disable a volume across machines. You must use QUIESCE on all machines that have access to the volume.

Use ONLINE to remove a volume from QUIESCE status. Use OFFLINE to remove a volume from both input and output processing.

Syntax

The following provides an example of the QUIESCE command syntax.

```
QUIESCE volser
```

Parameters

The following provides a description of the parameters you can use with QUIESCE.

Parameter	Required?	Valid Entry	Default
volser	Yes	1 to 6 characters	None

Definition

The following provides definitions for the parameters you can use with QUIESCE.

Parameter	Definition
volser	Specifies the serial number of the volume you want to quiesce.

Example

The following example quiesces the disk volume SYSWK1.

```
QUIESCE SYSWK1
```


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RELEASE Command

Description

RELEASE temporarily unlocks a BIM-EPIC dataset definition (EDD) or a locked version. RELEASE allows a one-time only access, while UNLOCK allows unlimited access. If you do not indicate a specific version, the EDD is released for output one time only. This release allows you to create one additional version of the dataset. The new version is placed in locked status automatically.

If a specific version is indicated, that version is released for input. BIM-EPIC allows you to read the released version only once. After a released version is read, the version is put back into locked status. You must use LOCK before you can use RELEASE.

Syntax

The following provides an example of the RELEASE command syntax.

```
RELEASE 'dataset-name' [,specifier-expression] [,PWD=password]
```

Parameters

The following provides a description of the parameters you can use with RELEASE.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
specifier-expression	No		None
If *specifier-expression* is used, specify one of the following:			
VER	No	1 to 999	None
SER	No	1 to 6 characters	None
GEN	No	1 to 999999	None
Specify if dataset is password protected:			
PWD	No	1 to 9	None

Definition

The following provides definitions for the parameters you can use with RELEASE.

Parameter	Definition
dataset-name	Specifies the name of the dataset you want to release.
specifier-expression	
VER	Specifies a version number from 1 to 999.
SER	Specifies the first (or only) volume of a tape version.

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Parameter	Definition
GEN	Specifies a generation number from 1 to 999999.
PWD	Use if the dataset is password protected.

Examples

The following example releases the PAYROLL.MASTER dataset, supplies the associated password, HARRY, and permits the creation of an additional version.

```
RELEASE 'PAYROLL.MASTER',PWD=HARRY
```

The following example releases the version of the PAYROLL.MASTER dataset which starts on volume serial number PR9485 and permits that version to be read as input one time only.

```
REL 'PAYROLL.MASTER',SER=PR9485
```


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RENAME Command

Description

RENAME allows you to change the name of a cataloged dataset. All existing versions of the original dataset will be referenced by the new dataset name. Dataset characteristics do not change.

If the dataset is a disk dataset, the associated VTOC entries are renamed, as well.

WARNING:
Do not rename prime datasets or offload datasets. Results are unpredictable.

Syntax

The following provides an example of the RENAME command syntax.

```
RENAME 'old-dataset-name','new-dataset-name'
```

Parameters

The following provides a description of the parameters you can use with RENAME.

Parameter	Required?	Valid Entry	Default
old-dataset-name	Yes	1 to 44 characters	None
new-dataset-name	Yes	1 to 44 characters	None

Definitions

The following provides definitions for the parameters you can use with RENAME.

Parameter	Definition
old-dataset-name	Specifies the name of the dataset you want to rename.
new-dataset-name	Specifies the new dataset name.

Example

The following example changes the name of the dataset CURRENT.MASTER to APRIL.MASTER.

```
REN 'CURRENT.MASTER','APRIL.MASTER'
```


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RETAIN Command

Description

RETAIN completes the following tasks:

- Alters an expiration date, a creation date, or a creation job name for a specific version. If the version is not in active status, it is set to active status. RETAIN specifies that a version is a TSIDOFL-created tape backup, not an offload of a Start Track 1 disk DSN created by TSIDOFL.
- Specifies that a version resides on an FSI Faketape device.

If an Automated Cartridge Library (ACL) is supported, RETAIN changes the tape volume to non–scratch status in the ACL inventory. RETAIN also changes the status of a version from scratch, open, or conditional catalog to active status.

If ENC has been used to specify an encryption algorithm for this dataset, RETAIN will not change the Creation Date or Job Name. See UPDATE Command for additional information.

Syntax

The following provides an example of the RETAIN command syntax.

```
RETAIN 'dataset-name',specifier-expression,
modifier-expression[,OF2] [,ST1] [,FKT]
```

Parameters

The following provides a description of the parameters you can use with RETAIN.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
specifier-expression	Yes		None
Specify one of the following:			
VER	No	1 to 999	None
SER	No	1 to 6 characters	None
GEN	No	1 to 999999	None
modifier-expression	Yes		None
Specify one of the following (required):			
EXD	No	*yyyyddd*	None
DAY	No	*yyyyddd*	None
CDT	No	*yyyyddd*	None
JOB	No		None
TPA	No		None
MOD	No		None

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Definition

The following provides definitions for the parameters you can use with RETAIN.

Parameter	Definition
dataset-name	Specifies the name of the dataset you want to retain.
specifier-expression	
VER=*nnn*	Specifies the version number, where *nnn* is any number from 1 to 999.
SER=*xxxxxx*	Specifies the serial number, where *xxxxxx* identifies the first or only tape volume version. The serial number can be up to 6 characters.
GEN=*nnnnnn*	Specifies the generation number, where *nnnnnn* can be any number from 1 to 999999.
modifier-expression	
EXD	Specifies the new expiration date (*expiration-date*) of the version in *yyyyddd* format.
DAY	Specifies retention period (*retention-days*). BIM-EPIC calculates the expiration date as the current date plus the number of retention days.
CDT	Specifies the creation date (*creation-date*) in Julian format: 4–digit year followed by 3–digit day, for example, January 1, 1991 = 1991001.
JOB	Specifies the name of the job (*jobname*) that created this version of the dataset.
TPA	Specifies that the tape device is TPA. TPA=YES indicates a TPA device. TPA=NO indicates a non-TPA device. If MOD is specified with a TPA density, then you must specify TPA=YES before the MOD parameter.
MOD=*xx*	Specifies the density used to create the version. See “CATALOG Command” for allowable MOD specifications.

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Parameter	Definition
OF2	(Optional keyword parameter) If used, place the parameter at the end of the RETAIN statement. You can use OF2 to identify the retained version as having FAVER2 offload format. In addition, you can use OF2 to assign FAVER2 offload format to a tape after the tape has been added to a dataset using the OF2 parameter.
ST1	(Optional parameter) Use if a new version is a tape backup created by TSIDOFL BACKUP, not an offload of an EPIC Start Track 1 dataset. ST1 sets the necessary switch in the BIM-EPIC catalog entry for this new version.
FKT	(Optional parameter) Use if a new version resides on an FSI Faketape device. FKT sets the necessary switch in the BIM-EPIC catalog entry for this new version.

Example

The following example retains version 3 of the AGED.TRIAL.BALANCE dataset. Version 3 is closed and is retained for seven days from today. The creating job name is changed to TRIALBAL.

```
RETAIN 'AGED.TRIAL.BALANCE',VER=3,DAY=7,JOB=TRIALBAL
```

The following example retains the version of PAYROLL.UNEDITED.TRANSACTIONS which starts on volume PR5867. The version is closed and expires on November 23, 1997.

```
RET 'PAYROLL.UNEDITED.TRANSACTIONS',SER=PR5867,EXD=1997327
```

The following example informs the BIM-EPIC Catalog that this version is on an FSI Faketape device.

```
RET 'PAYROLL.UNEDITED.TRANSACTIONS',VER=1,FKT
```


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SCRATCH Command

Description

SCRATCH scratches a version of a dataset. The version must be in active status to be scratched. If the version is in open status or conditionally cataloged status, use CLOSE to make the version active.

If an Automated Cartridge Library (ACL) is supported, SCRATCH sets the tape volume to scratch status in the ACL inventory.

In BIM-EPIC, you can use SCRATCH in a job stream to scratch disk datasets without supplying the dataset password. As long as the current job name and partition are the same as the creating job name and partition, BIM-EPIC disregards password protection.

WARNING:
You must not scratch encrypted dataset versions. If an encrypted dataset version is scratched, the version cannot be decoded and is unreadable even it is retained prior to reuse.

Syntax

The following provides an example of the SCRATCH command syntax.

```
SCRATCH  'dataset-name' {,VER=n|,SER=volser|,GEN=n} [FOR]
```

Parameters

The following provides a description of the parameters you can use with SCRATCH.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
Specify one of the following (required):			
VER	No	1 to 999	None
SER	No	1 to 6 characters	None
GEN	No	1 to 999999	None
Specify the following optional parameter only if the disk volume on which a dataset resides is no longer available:			
FOR	No	None	N/A

Definitions

The following provides definitions for the parameters you can use with SCRATCH.

Parameter	Definition
dataset-name	Specifies the dataset name.
VER	Specifies the version number.
SER	Specifies the volume serial number of the first volume of a tape version.

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Parameter	Definition
GEN	Specifies the generation number of a disk version.
FOR	Specifies that the disk volume on which a dataset resides is no longer available and the entry is to be removed from the catalog.

Note:
Scratching by volume serial number is not valid for an NSU subdataset or an MCAT alias.

Examples

The following example scratches version 1 of the INVENTRY.SANDIEGO.3847 dataset.

```
SCRATCH 'INVENTRY.SANDIEGO.3847',VER=1
```

The following example scratches the version of the INVENTRY.SANDIEGO.3847 dataset which starts on volume IN4658.

```
SCR 'INVENTRY.SANDIEGO.3847',SER=IN4658
```


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TRANSFER Command

Description

TRANSFER moves a version from one dataset to another dataset. The transferred version is no longer associated with the original dataset name. However, a transferred version retains all of the original characteristics, except for the version number.

Note:
If the version is a disk dataset, the associated VTOC entry is also renamed.

Syntax

The following provides an example of the TRANSFER command syntax.

```
TRANSFER 'from-dataset-name', from-specifier,
         'to-dataset-name'[,VER=to-version]
```

Parameters

The following provides a description of the parameters you can use with TRANSFER.

Parameter	Required?	Valid Entry	Default
from-dataset-name	Yes	1 to 44 characters	None
from-specifier	Yes	See definitions, below	None
to-dataset-name	Yes	1 to 44 characters	None
to-version	No	1 to 999	N/A
Specify one of the following (optional):			
VER	No	1 to 999	1
SER	No	1 to 6 characters	None

Definitions

The following provides definitions for the parameters you can use with TRANSFER.

Parameter	Definition
from-dataset-name	Specifies original dataset name.
from-specifier	Specifies original specifier.
to-dataset-name	Specifies the destination dataset name.
to-version	Specifies the destination version.
VER	Specifies the version number.
SER	Specifies the volume serial number of the first volume of a tape version.

Example

The following example transfers version 7 of the IRVINE.INVENTRY dataset to version 1 of the SANDIEGO.INVENTRY dataset.

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```
TRA  'IRVINE.INVENTRY',VER=7,'SANDIEGO.INVENTRY'
```


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UNLOCK Command

Description

UNLOCK permanently unlocks a locked dataset or version. To unlock a dataset or version for a one-time only use, use RELEASE. You must use LOCK before you can use UNLOCK.

To permit unlimited access to a specific version, use UNLOCK with a version qualifier. To permit creation of an unlimited number of new versions, use UNLOCK without a version qualifier.

Syntax

The following provides an example of the UNLOCK command syntax.

```
UNLOCK  'dataset-name',dataset-specifier [,PWD=password]
```

Parameters

The following provides a description of the parameters you can use with UNLOCK.

Parameter	Required?	Valid Entry	Default
dataset-name	Yes	1 to 44 characters	None
dataset-specifier	No		None
Specify one of the following (required):			
VER	No	1 to 999	None
SER	No	1 to 6 characters	None
GEN	No	1 to 999999	None
PWD	No		None

Definitions

The following provides definitions for the parameters you can use with UNLOCK.

Parameter	Definition
dataset-name	Specifies the dataset name.
dataset specifier	
VER	Specifies the version number.
SER	Specifies the serial number.
GEN	Specifies the generation number.
PWD	Use if the dataset is password protected.

Examples

The following example unlocks the PAYROLL.MASTER dataset, supplying the associated dataset password, HARRY. Unlimited versions of the dataset can now be created.

```
UNLOCK 'PAYROLL.MASTER',PWD=HARRY
```


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The following example unlocks version 6 of the INVENT.958575 dataset. The dataset can now be read as input an unlimited number of times.

```
UNL 'INVENT.958575',VER=6
```


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UPDATE Command

Description

UPDATE changes the characteristics associated with a BIM-EPIC dataset definition (EDD) in the DSN Catalog. The updated characteristics will affect only versions created after an update. To update previously created versions, use CLOSE, CYCLE, or RETAIN.

The parameters available with UPDATE are nearly identical to the CATALOG parameters. However, you cannot update the prime dataset name and encryption password. To change those items, you must create a new dataset name for the dataset in your DSN Catalog and then change existing JCL.

If the following parameters are already cataloged, set the parameters to NO to remove them.

- disk pool
- password
- system ID
- tape pool
- user ID

There are two parameters that can be used only in the UPDATE command. They cannot be used with CATALOG or ADD.

- DPW - Password for use with ENC
- ENC - Encryption type

These parameters can be used on any BIM-EPIC dataset definition, but they are effective only if the BIM-EPIC Dr. Crypto product is being used.

Syntax

Except for DPW and ENC, see CATALOG Command earlier in this chapter for complete syntax rules.

Neither DPW nor ENC are available in the BIM-EPIC Online Manager. They can only be used with the TSIDMNT program.

Use DPW=*xxxxxxxx* to specify a 1-8 byte password that must be entered when the ENC parameter is used. This password is the password specified in the PWD parameter.

Use ENC=xxx to specify the encryption algorithm. When specified and a new version of the dataset is created by Dr.Crypto, all of the data in the version will be encrypted using the algorithm specified in the ENC

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parameter. When the version is read by Dr.Crypto, the encryption key used to create the version is presented to Dr.Crypto to decrypt the data. If the ENC parameter is used to change the algorithm, new versions will be encrypted with that algorithm, but previously created versions will remain encrypted in the prior algorithm.

The ENC parameter can be one of the following values:

- DES–Data Encryption Standard
- DE3–Data Encryption Standard 3
- AES–Advanced Encryption Standard
- NO–No encryption is done. This is the default.

When used, the DPW parameter must precede the ENC parameter.

Examples

The following example updates the PAYROLL.EDITED.TRANSACTIONS dataset, changing the associated vault method to number 3.

```
UPDATE 'PAYROLL.EDITED.TRANSACTIONS',VLT=3
```

The following example updates the SR3.INVENTRY.45768 dataset, changing the associated default block size to 10,000 and changing the default density to 3490E with IDRC.

```
UPD 'SR3.INVENTRY.45768',BLK=10000,MOD=F8
```

The following example shows how to define and display an encryption algorithm for a new dataset.

```
// EXEC TSIDMNT
CAT 'PAYROLL.MASTER' PWD=NX8W6R POL= .....
UPD 'PAYROLL.MASTER' DPW=NX8W6R ENC=DES
DIS 'PAYROLL.MASTER' DPW=NX8W6R
/*
```


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4

BIM-EPIC TLBL and DLBL Statements

This chapter describes the TLBL statement and DLBL statement. BIM-EPIC TLBL statements can have a slightly different format than VSE TLBL statements and, as a result, provide additional options. BIM-EPIC DLBL statements have the same format as VSE DLBL statements but can also provide additional options. In addition, BIM-EPIC provides an MVS-style dataset definition (DD) statement for VSE. Each type of BIM-EPIC label statement provides unique benefits. Which label statement you choose depends largely on what you want to do with the dataset you are processing.

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TLBL Statements and Options
DLBL Statements and Options

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TLBL Statements and Options

TLBL Statements

Description

Typically, a user does not need to change existing TLBLs. However BIM-EPIC provides modifications to the standard VSE TLBL statement that can provide additional capability.

Note:
All TLBL fields are positional.

TLBL Format

The following identifies similarities and differences in TLBL formats.

Pos	BIM-EPIC Format and Terminology	VSE Format and Terminology
1	*// TLBL dtfname*	*// TLBL filename*
2	[*,'dataset-name [,alpha-opts]'*]	[*,'fileid'*]
3	[*,retention*]	[*,retention*]
4	[*,volser*]	[*,file-serial-number*]
5	[*,reel-number*]	[*,volume-sequence-number*]
6	[*,file-sequence-number*]	[*,file-sequence-number*]
7	[*,version-number*]	[*,generation-number*]
8	[*,numeric-options*]	[*,version-number*]
9	[*,disposition*]	[*,disposition*]

Parameters

The following provides a description of the parameters you can use with TLBL statements.

Parameter	Required?	Valid Entry	Default
dtfname	Yes	1 to 7 characters	None
dataset-name	For output	See description below	dtfname
alpha-opts	No	See description below	None
retention	No	1 to 9999 or yyyy/ddd	None
volser	No	1 to 6 characters	None
reel-number	No	1 to 256	1
file-sequence-number	No	1 to 9999	1
version-number	No	1 to 999	1
numeric-options	No	0 to 99	0

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Parameter	Required?	Valid Entry	Default
disposition	No	See description below	None

Definitions

The following provides definitions for the parameters you can use with CATALOG.

Parameter	Definition
dtfname	Specifies the symbolic name that the program uses for the dataset. For example TAPEIN and SORTIN. IBM refers to the *dtfname* field as the *filename*.
dataset-name	Specifies the name of the dataset that will be used. IBM refers to this field as the *fileid*. For BIM-EPIC to control the dataset, *dataset-name* must be identical to a BIM-EPIC dataset definition (EDD) name in the DSN Catalog. The maximum length of *dataset-name* for a prime dataset in a multi-file group is 17 characters. Single dataset or subdataset names can be up to 44 characters. The dataset name field consists of *dataset-name* and any desired *alpha-opts*. Beginning and ending apostrophes are required. The dataset name field is a required field for output. For input, the dataset name field can be omitted and a volume serial number can be supplied instead. However, if you want BIM-EPIC to select the tape, you must specify the dataset name field. The maximum length of the dataset name field, including *dataset-name*, commas, options, and parentheses, is 58 characters.

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Parameter	Definition
alpha-opts	Provides compatibility with tape management products from other vendors. To use these options, the JCLOPT configuration option must be set to YES. The *alpha-opts* parameters can be alphabetic codes, version requests, and density requests, in any order, as long as they are separated from *dataset-name* and each other by commas. See "TLBL Options" for additional options. A specific version can be requested by specifying a parenthetical expression that contains a minus sign (-) followed by a number that is one less than the desired version. For example, to use catalog version 2, specify (-1). ■ densities supported for 3480/3490 devices: 00—Buffered write mode 08—Buffered write mode with IDRC 20—Unbuffered write mode 28—Unbuffered write mode with IDRC ■ densities supported for 8809/9347 devices: 30—High speed / short gap 50—Low speed / long gap 60—Low speed / short gap 90—High speed / long gap ■ densities supported for 3424/9348 devices: 42—Buffered write mode 1600 bpi 62—Unbuffered write mode 1600 bpi C2—Buffered write mode 6250 bpi E2—Unbuffered write mode 6250 bpi ■ densities supported for 3410/3420/3422/3430 devices: D0—6250 bpi C0—1600 bpi C8—800 bpi

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Parameter	Definition
	■ densities supported for 3490E devices: F0—Buffered write mode (3490E) F8—Buffered write mode with IDRC (3490E) BIM-EPIC uses mode F0 and mode F8 to distinguish 3490E tape cartridge drives from 3480/3490. Because VSE/ESA does not support mode F0 and mode F8, BIM-EPIC sends mode 00 or mode 08 to the 3490E hardware, whenever mode F0 or mode F8 is specified.
retention	Specifies the number of days to retain this version.
volser	Requests a specific tape volume serial number. IBM refers to this as the file serial number. This field is optional and is not normally used for controlled tapes, since BIM-EPIC knows the volser to use.
reel-number	Specifies the first reel number to be processed and is used to skip initial reels in a multi-volume group. If you specify a volume serial number, *reel-number* is ignored.
file-sequence-number	Specifies the file number of a dataset on a tape that contains more than one dataset; not usually used for BIM-EPIC controlled tapes.
version-number	Requests a specific version. Use the DSN Catalog version number to obtain this parameter. If you specify a volume serial number, *version-number* is ignored. This parameter replaces the generation number in the VSE format.
numeric-options	Specifies numeric option codes. This parameter replaces the version number in the VSE format. See “TLBL Options” below for additional information.

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Parameter	Definition
disposition	Specifies file disposition. Values are DISP=OLD, DISP=NEW, or DISP=MOD. This parameter is identical to the VSE parameter and is valid only for Assembler language programs written for VSE/AF Release 1 and above. See the VSE System Control Statements documentation for additional information.

Examples

The following examples show how TLBL statements can be used with BIM-EPIC. These examples show how BIM-EPIC specifies the tape volume for version 1 of BACKUP.STR from the DSN Catalog. Because version 1 is usually the desired version, the most-used form is TLBL// TLBL TAPEIN,'BACKUP.STR'.

The following example describes how BIM-EPIC specifies version 3 of BACKUP.STR from the DSN Catalog.

```
// TLBL TAPEIN,'BACKUP.STR,(-2)'
```

The following example describes how BIM-EPIC honors the request for volume EP6173.

```
// TLBL TAPEIN,,,EP6173
```

The following example describes how BIM-EPIC selects version 1 of BACKUP.STR and specifies “rewind and unload at close” and mode 08.

```
// TLBL TAPEIN,'BACKUP.STR,U,08'
```


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TLBL Options

Description

BIM-EPIC TLBL option codes provide special processing that is unavailable with standard VSE TLBL parameters. See “TLBL Statements” for instructions and restrictions on specifying parameters.

Alphabetic option codes, also known as alpha options**,** provide compatibility with other tape management products. Alpha options can be specified only within the TLBL dataset name field.

Numeric codes can be specified only in the TLBL `numeric-options` parameter. To specify multiple numeric codes, add the value of each desired option and use the sum in the TLBL. For example, if you want to specify option code 3 (do not rewind) and option code 64 (inhibit LUB allocation), specify 67 in the numeric-options parameter.

You can use numeric options for controlled and uncontrolled datasets.

TLBL Option Codes

The following option codes can be used with the TLBL option.

Alpha Code	Numeric Code	Action	Description
	0	No options in effect (This is the default and does not need to be specified in the TLBL.)	When no options are included, BIM-EPIC recognizes the rewind settings in your program.
W	1	Rewind at close	Rewinds the tape at close. This eliminates operator intervention when the same tape is reused in another step or job. If a cartridge is being used on an ACL drive, BIM-EPIC unloads the cartridge at close unless option 8 or H (Hold assignment at close) is specified. The 8/H is not recommended for ACL volumes, however.
U	2	Rewind and unload at close	Rewinds and unloads the tape at close.

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Alpha Code	Numeric Code	Action	Description
	3	Do not rewind	Prevents rewinding the tape at close. Use this option when you are creating multi-dataset tapes.
R	4	Scratch at close	Scratches the dataset when the dataset is closed as input. This option does not affect subdatasets.
H	8	Hold the drive assignment at close	Prevents BIM-EPIC from releasing the tape drive assignment at close. If Autoattach is on, this code prevents the drive from being detached. The drive will be released at end-of-job, when the logical unit is assigned to another device, or when the tape drive is down, whichever occurs first.
D	16	Dataset drop	Use this option when the program issues multiple open requests for the same DTF name. While VSE alone will process the original label each time the same DTF name is opened with the drop option, BIM-EPIC processes the next label in the JCL with that DTF name. Dataset drop differs from concatenation (48), since concatenation processes multiple datasets with one open.
	32	Conditional catalog	Puts the version in the DSN Catalog with conditional catalog status.

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Alpha Code	Numeric Code	Action	Description
	48	Concatenating datasets	Reads multiple files using only one open command. The files are read as a single dataset. This process is called dataset concatenation. Use concatenation to read multiple files when your program performs only one open command. This option is valid for controlled datasets only.
	64	Inhibit LUB allocation	Inhibits LUB allocation for the dataset. Inhibiting LUB allocation is necessary when you are running programs that use physical IOCS or BIM-EPIC TSIDASS. You do not need to specify this option when LUB allocation is turned off or when a SYS number is specified in the dataset definition.

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DLBL Statements and Options

DLBL Statements

Description

The BIM-EPIC DLBL statement is identical to the VSE DLBL statement, with additional BIM-EPIC options that provide special BIM-EPIC processing.

BIM-EPIC DLBL options are specified within the file ID or dataset name parameter, beginning after the dataset name itself and ending with the closing apostrophe. Options must be separated from the dataset name and from each other using commas. The option(s) specified must be enclosed in parentheses.

BIM-EPIC uses blanks to replace the options, commas, and parentheses before creating label information. As a result, only the dataset name appears in VTOC entries.

The maximum length allowed for the dataset name, including options, commas, and parentheses, is 44 characters.

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DLBL Options

Description

DLBL option codes provide special BIM-EPIC processing that is unavailable with standard VSE DLBL parameters. See “DLBL Statements ” for an overview of DLBL statements.

DLBL Option Codes

The following option codes can be used with the DLBL statement.

Code	Action	Description
A	Align allocation on cylinder boundaries	Aligns the disk allocation on cylinder boundaries. Valid for CKD devices only. Allocations for direct access (DA) and ISAM datasets are aligned automatically.
B=*n*	Reblock (*n*=1 to 32767|MAX|OPT)	Changes the block size of the datasets without recompiling the programs. Valid for datasets with either fixed or variable record formats. Reblock with caution when running programs that use physical IOCS. These programs must be able to support reblocking. Specify either MAX for full-track blocking or OPT for half-track blocking.
C	Conditionally catalog	Puts the version in the DSN Catalog in conditional catalog status at close.
D	Delete after closed as input	Deletes the dataset after the dataset is closed for input. The code is not required for compiler work areas, BIM-EPIC Common Work Datasets (CWDS), or SORTWK files. These files are deleted automatically at close.
E	Concatenate datasets	Invokes dataset concatenation, which causes the problem program to read two or more files as if they were a single file, using just one open and one close. Dataset concatenation can only be performed for cataloged datasets. This code differs from dataset drop, option code T, in that dataset drop only processes one dataset when a program issues a single open.

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Code	Action	Description
F	Allow fragmentation	When the requested amount of space is not available, this code allows BIM-EPIC to allocate the largest amount of contiguous space available. Do not use this code for TYPEFLE=WORK files, for example, compiler work files, and FORTRAN disk files or for any other files that do not support secondary extents. If you do not specify the F code and BIM-EPIC cannot find the requested contiguous extent in the pool, message EP038 is issued. This message enables the operator to respond with FRAG to invoke fragmentation.
G=*n*	Access the specified generation (*n*=1 to 65535)	Accesses the specified generation of the dataset. This is useful when you want to access a specific version of a dataset without reference to the associated relative version number. The generation number of a version is listed in TSIDUTL DSPLY and catalog maintenance DISPLAY reports. The generation number is valid for cataloged datasets only. It is NOT the same as the version number.
H	Prevent automatic fragmentation	Overrides the configuration option FRAG=YES, preventing automatic file fragmentation, if the space requested for allocation is not available. If the EP038 message is issued, an operator can specify FRAG to continue the allocation.
I	Ignore this dataset	Overrides BIM-EPIC control of a dataset. Valid ASSGN and EXTENT statements must be included to process the dataset.
L	Inhibit LUB allocation	Inhibits LUB allocation for the dataset. Frequently, inhibiting LUB allocation is necessary when you are running programs that use physical IOCS. See Chapter 1, “Allocating Logical Unit Blocks (LUB),” for more information.

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Code	Action	Description
M	Issue messages open/close	Overrides configuration options ALLMALL=NO (default) and ALLMSG=NO for this dataset. Allocation messages are issued for the dataset and for all subsequent disk datasets that are opened. For output datasets, EP039 is issued after the dataset has been opened, displaying the allocated extents. EP052 is issued after the file has been closed, displaying the size of the truncated extent. For input datasets, EP053 is issued to display the extent that has been opened. EP051 is issued to indicate that the dataset has been closed. This option is ignored for system datasets, such as IJSYSLN, that are held open across job step boundaries.
N	Bypass truncation	All unused space between the end-of-file record and the end of the last extent remains allocated to the dataset. Use the Bypass truncation option if the file is to be accessed later as a DA file to enable additional records to be written to the file after the file is closed. This option is required for any dataset processed with a TYPEFLE=WORK DTF. The Bypass truncation option is also required when you use the option code S, reuse same space.
O	Use extent size in EXTENT statement	Accepts the size specified in the EXTENT statement as the primary extent rather than the size specified in the DSN Catalog. Pool name and secondary extent size are taken from the BIM-EPIC dataset definition. Use this option when the volume of data you are processing is significantly different from normal. This option is valid for cataloged datasets only.
P	Delete (Purge) at End of Job (non-generation files only)	Deletes the dataset at end of job. Use this option for temporary datasets that are not closed for input. This option is automatically activated for all SORTWK and affects only cataloged, non-generation datasets. Configuration option JOBACCT=YES is required.

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Code	Action	Description
R=*n*	Allocate by Logical Records (*n*=1 to 999999)	Specifies the number of logical records the file is to contain. BIM-EPIC uses this number to calculate the size of the extent required.
S	Reuse same space	Reuses the same extent space occupied by the current version for the next version of the dataset. This option affects single extent non-generation datasets only. When you use this option, you must also inhibit truncation, option code N, for the dataset.
T	Dataset drop	Deletes the label information for this dataset from the label area when the dataset is closed. **Note:** The label information is not deleted from the VTOC. If the problem program subsequently issues another open for the file, this label will not be found. This option is useful for programs that issue more than one open for the same DTF name. Dataset drop differs from dataset concatenation, option code E, in that concatenation causes two or more datasets to be processed as a single dataset when a single open is issued by the program.
V=*n*	Access the specified version (*n*=1 to 65535)	Specifies a specific version to access. This option is valid for cataloged datasets only. Remember that the latest version is always version 1.
X	Delete at close or EOJ (non-generation files only)	Deletes the dataset at close if it is closed for input or at end of job if the dataset still exists. This option provides the same function as the combination of the option code P and the option code D. The configuration option JOBACCT=YES is required for this option. This option is valid only for cataloged, non-generation datasets.

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5

Accessing the DSN Catalog

This chapter discusses several ways to access the DSN Catalog.

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Displaying DSN Catalog Entries
Accessing DSN Catalog Records

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Displaying DSN Catalog Entries

TSIDUTL DSPLY

Description

TSIDUTL DSPLY creates reports from the data maintained in the DSN Catalog. Reports can be created containing data associated with all datasets, all versions, specific datasets, or specific versions which match specified criteria and by media type (tape or disk). These reports can also be produced using different sort sequences.

TSIDUTL DSPLY creates reports listing all datasets or groups of datasets in the DSN Catalog. In most cases, you will receive a full report of each catalog entry for a specific dataset. If printed, the BIM-EPIC dataset definition (EDD) can be output in bold print, by overprinting, for easier viewing.

For report examples, see the *BIM-EPIC Installation and System Guide* for additional information.

UPSI Values

The following provides descriptions of the values associated with the TSIDUTL DSPLY catalog entry.

Value	Function
1xxxx	Lists dates in European format (*dd/mm/yy*).
x1xxx	Suppresses dataset name overprinting. Use this setting if the report will be viewed at a terminal or if the report will be printed on a printer that does not support overprinting.
xxx1x	Suppresses catalog update when using the NEW subparameter.
xxxx1	Bypasses CA-EPIC for CMS Archive datasets.

Dataset Requirements

SORTWK1 is required if you use the SEQ parameter.

Syntax

The following provides an example of the TSIDUTL DSPLY command syntax.

```
DSPLY dataset-qualifier [,report-qualifier]
         [,SEQ=sort-sequence]
```


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Parameters

The following provides a description of the parameters you can use with TSIDUTL DSPLY.

Parameter	Required?	Valid Entry	Default
dataset-qualifier	Yes		None
Specify one of the following (required):			
ACTIVE	No		None
ALL	No		None
DISK	No		None
DSN	No		None
NEW	No		None
PULL	No		None
PULL,DSN	No		None
SCRATCH	No		None
TAPE	No		None
TAPEPOOL	No		None
VAULT	No		None
report-qualifier	No		None
Specify one of the following (optional)			
OWNER	No		None
SYSID	No		None
TPL	No		None
TPV	No		None
USERID	No		None
VLT	No		None
sort-sequence	No		None
Specify one of the following (optional)			
CJOB	No		None
CDATE	No		None
DSN	No		None
ERROR	No		None
SERIAL	No		None
VAULT	No		None
TAPEPOOL	No		None
XDATE	No		None

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Definitions

The following provides definitions for the parameters you can use with TSIDUTL DSPLY.

Parameter	Definition
dataset-qualifier	
ACTIVE	Creates reports for active datasets only.
ALL	Creates reports for all datasets in the DSN Catalog.
DISK	Creates reports for disk datasets only.
DSN	Creates reports for a specified dataset only.
NEW	Reports dataset versions created since the last time the DSPLY NEW report was run. Use NEW to track the datasets created within a given time frame.
PULL	Lists the latest version of all datasets.
PULL,DSN	Identifies the latest version of the specified dataset.
SCRATCH	Identifies scratch tapes.
TAPE	Identifies only tape datasets.
TAPEPOOL	Identifies the tapes in each tape pool. Page breaks occur between tape pools.
VAULT	Identifies the tapes stored in each offsite vault. Page breaks occur between vaults. Only prime versions will be displayed.
report-qualifier	
OWNER	Lists only dataset information having the specified owner ID.
SYSID	Lists only dataset information having the specified system ID.
TPL	Lists tapes whose EDD is set to the specified pool ID.
TPV	Lists tapes whose VOLSER falls within specified pool ID.
USERID	Lists datasets with the specified user ID.
VLT	Lists datasets stored in the specified vault. Only prime versions will be displayed.
sort-sequence	Defines the sort sequence of your report and, if used, must be the last parameter specified. If you do not use sort-sequence (SEQ), datasets are listed in the order they are found in the catalog index. Therefore, if you do not use SEQ, you might want to sort the index using TSIDUTL INDEX before running reports.

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Parameter	Definition
CJOB	Lists the job name.
CDATE	Lists the creation date.
DSN	Lists the dataset name.
ERROR	Lists the total errors.
SERIAL	Lists the tape volume serial number.
VAULT	Lists the vault and slot numbers.
TAPEPOOL	Lists the tape pool ID.
XDATE	Lists the expiration date.

Examples

The following example produces a report listing all datasets belonging to the system ID=TS and the user ID=MR. The datasets are listed in the order they are found in the catalog index.

```
// JOB DISPLAY DSN CATALOG
// EXEC TSIDUTL
DSPLY ALL,SYSID=TS,USERID=MR
/*
/&
```

The following example produces a report listing all vaulted tapes. Tapes are listed in dataset name sequence within the vault. The next example produces the same reports but is used by users that only have the BIM-EPIC tape component and do not have the BIM-EPIC disk component.

```
// JOB DISPLAY DSN CATALOG
// DLBL SORTWK1,'$$$.SORTWK1,(X)' (if not in Standard
Labels)
// EXEC TSIDUTL
DSPLY VAULT,SEQ=DSN
/*
/&
// JOB DISPLAY DSN CATALOG
// ASSGN SYS001,150
// DLBL SORTWK1,'===.SORTWK1,(X)'
// EXTENT SYS001,MYPAK1,4820,90
// EXEC TSIDUTL
DSPLY VAULT,SEQ=DSN
/*
/&
```

The following job produces a report listing all tapes whose VOLSER falls within the B pool range on the machine the job runs on. Tapes are listed in VOLSER sequence.

```
// JOB DISPLAY DSN CATALOG
// EXEC TSIDUTL
DSPLY TAPE,TPV=B,SEQ=SER
/*
/&
```


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Accessing DSN Catalog Records

TSIDAC2 Subroutine

Description

TSIDAC2 provides the capability to access BIM-EPIC Catalog records from non-BIM-EPIC programs. This subroutine would be useful, for example, if you needed to produce reports not provided by BIM-EPIC. TSIDAC2 can be invoked from any programming language that supports the CALL facility/construct. TSIDAC2 is located in the BIM-EPIC installation library as member TSIDAC2.OBJ.

A sample COBOL program, TSIDACC2, is located in the BIM-EPIC installation library as member TSIDACC2.C.

A COBOL mapping of the BIM-EPIC Catalog records is in the BIM-EPIC installation library as member TSIDAC2.C. Member TSIDAC2.A is an Assembler mapping.

The BIM-EPIC installation library must be available when the calling program is link-edited.

Note:
TSIDAC2 is not a reentrant program and must not be used in a CICS environment.

DSN Catalog Record Structure

Each DSN Catalog dataset entry consists of two types of records.

- A single BIM-EPIC dataset definition (EDD) record known as the master record.
- Individual version-level records known as `detail records`. One record exists for each version, whether the version is valid, open, conditionally cataloged, or scratched. If the version is multi-extent or multi-volume, there is a detail record for each additional extent or volume.

The DSN Catalog dataset also includes an index. Each time a new record is added to the DSN Catalog file, another index entry is added to the end of the index area. This means that information obtained sequentially may not be in alphabetical order. To re-sequence the index, use TSIDUTL INDEX before executing your program.

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Sequential and Random Access

When using random access, TSIDAC2 returns the master record for a specific dataset the first time TSIDAC2 is called for that dataset. On each subsequent call, TSIDAC2 returns a detail record for that dataset.

When using sequential access, TSIDAC2 returns each record in order for a single dataset. TSIDAC2 then moves to the next dataset in the DSN Catalog index and begins returning the index records, one record at a time. Detail records are always returned current version first, followed by each successively older version.

Also, when using sequential access, TSIDAC2 reads the EDD (Master) record. Once the EDD record has been returned, subsequent TSIDAC2 calls return a Detail/Version record "belonging" to that EDD until all Detail records have been retrieved. Subsequent calls to TSIDAC2 will return the next Master record. Detail records are always returned current version first, followed by successively older versions.

It is your responsibility to determine the status of a Detail record (active, open, conditionally cataloged, scratched). TSIDAC2.C and TSIDAC2.A copybooks provide the mappings to assist you when determining the status of the record.

Procedure

Use the following procedure when invoking the TSIDAC2 subroutine from a calling program. It may be useful to have the TSIDAC2.C member available as a guide.

Step	Action	Description
1	Define the storage area required for the parameter list that occurs during a TSIDAC2 call.	This storage area begins with a one-byte field that is used as a return code from TSIDAC2. The rest of the storage area contains the data being passed to and received from TSIDAC2. The TSIDAC2.C copybook and the TSIDAC2.A copybook contain the layout of this storage area. Both copybooks are in the BIM-EPIC installation library. Use one of these copybooks to define the storage area.
2	Place the appropriate argument in the USR-KEY field to instruct TSIDAC2 which function to perform.	See "Search Arguments and Calls" in this chapter for additional information.

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Step	Action	Description
3	Call TSIDAC2 from your program.	This call requires that a parameter list be passed to TSIDAC2. The parameter list consists of only the storage area discussed in step 1.
4	Following the TSIDAC2 call, you should check the return code that is passed back in the USER-RETURN-CODE field.	

Return Codes

The following return codes are used.

Return Code	Explanation
1	Function completed normally and the data has been returned in USER-CATALOG-DATA.
2	End-of-file has been reached. This return code is issued when reading the entire DSN Catalog via sequential access or when reading all versions of a specific dataset using random access.
3	Requested data was not found in the DSN Catalog during a random access call.
4	BIM-EPIC system is not active.

Data is returned only if the return code is 0.

Example

The following is an example of COBOL coding that can be used to invoke TSIDAC2.

```
WORKING-STORAGE SECTION.
01 ACC-RECORD COPY TSIDAC2.
PROCEDURE DIVISION.
    MOVE (search argument) TO USR-KEY.
     CALL 'TSIDAC2' USING ACC-RECORD.
     IF USER-RETURN-OK GO TO PROCESS-THE-RECORD.
     IF USER-RETURN-EOF GO TO END-OF-FILE.
     IF USER-RETURN-NOT-ACTIVE GO TO SYSTEM-DOWN.
     IF USER-RETURN-NOT-FOUND GO TO NOT-FOUND.
PROCESS-THE-RECORD.
```


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Search Arguments and Calls

Description

The following explains specific procedures you can use to gain access to the DSN Catalog when using TSIDAC2. Implement these procedures as steps 2 and 3 of the procedure outlined in the previous section.

The examples use the COBOL copybook (TSIDAC2.C) to name the data fields described in this section. All examples are in COBOL.

Random Access

To request a complete dataset entry:

Step	Action
1	Move the dataset name to the USR-KEY field.
2	Issue multiple calls to TSIDAC2.

Example

The following is an example of COBOL coding that you can use to request a dataset entry.

```
PROCEDURE DIVISION.
     .
     .
     .
DSN-LOOP.
     MOVE 'DATA.SET.NAME.A' TO USR-KEY.
     CALL 'TSIDAC2' USING ACC-RECORD.
     IF USER-RETURN-CODE = 1 GO TO END-OF-DSN
     IF USER-RETURN-CODE NOT EQUAL ‘0’ GO TO ERROR.
     (process the catalog information here)
     GO TO DSN-LOOP.
```

To request a master record only:

Step	Action
1	Move the dataset name to the USR-KEY field.
2	Call TSIDAC2 once.

Example

The following is an example of COBOL coding that you can use to request a master record only.

```
PROCEDURE DIVISION.
     .
     .
     .
     MOVE 'DATA.SET.NAME.A' TO USR-KEY.
     CALL 'TSIDAC2' USING ACC-RECORD.
     IF USER-RETURN-CODE NOT EQUAL ‘0’ GO TO ERROR.
     .
     .
```


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To request a detail record by volume serial number:

Step	Action
1	Move a hex 02 to USR-KEY-POS-1 and move the six-digit volume serial number to USR-KEY-SER.
2	Call TSIDAC2.

Example

The following is an example of COBOL coding that you can use to request a detail record by volume serial number.

```
WORKING-STORAGE SECTION.
01 HEX-NUMBER   PIC S9(4) COMP VALUE +2.
01 HEX-REDEF REDEFINES HEX-NUMBER.
   05 FILLER    PIC X.
   05 HEX02     PIC X.
      .
      .
      .
PROCEDURE DIVISION.
      .
      .
      .
     MOVE HEX02 TO USR-KEY-POS-1.
     MOVE 'EP3452' TO USR-KEY-SER.
     CALL 'TSIDAC2' USING ACC-RECORD.
     IF USER-RETURN-CODE NOT EQUAL ‘0’ GO TO ERROR.
      .
      .
```

Sequential Access

To read the entire DSN Catalog sequentially:

Step	Action
1	Move spaces to the USR-KEY field.
2	Issue multiple calls to TSIDAC2.

Example

The following is an example of COBOL coding that you can use to read the entire DSN Catalog sequentially.

```
PROCEDURE DIVISION.
      .
      .
      .
SEQUENTIAL-READ.
     MOVE SPACES TO USR-KEY.
     CALL 'TSIDAC2' USING ACC-RECORD.
     IF USER-RETURN_CODE = 1
              GO TO END-OF-CATALOG.
(process the catalog information here)
GO TO SEQUENTIAL-READ.
```

To specify a starting point for sequential processing:

Step	Action
1	Move the starting dataset name into the USR-KEY field.
2	Call TSIDAC2.
3	Move spaces to the USR-KEY field.

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Step	Action
4	Issue multiple calls to TSIDAC2.

Example

The following is an example of COBOL coding that you can use to specify a starting point for sequential processing.

```
PROCEDURE DIVISION.
     .
     .
     .
     MOVE 'DATA.SET.NAME.B' TO USR-KEY.
     CALL 'TSIDAC2' USING ACC-RECORD.
SEQUENTIAL-READ.
     MOVE SPACES TO USR-KEY.
     CALL 'TSIDAC2' USING ACC-RECORD.
     IF USER-RETURN_CODE = 1
               GO TO END-OF-CATALOG.
(process the catalog information here)
GO TO SEQUENTIAL-READ.
```

Terminating Sequential Access

Sequential access to the DSN Catalog is terminated at end-of-file, under normal conditions. In certain circumstances, however, you may want to terminate sequential processing prior to end-of-file and allow your programs to change between sequential and random processing. No records are returned when performing this type of call.

To terminate sequential processing prior to end-of-file:

Step	Action
1	Move high-values (hex FF) to the USR-KEY field.
2	Call TSIDAC2.

Example

The following is an example of COBOL coding that you can use to terminate sequential processing prior to end-of-file.

```
PROCEDURE DIVISION.
     .
     .
     .
     MOVE HIGH-VALUES TO USR-KEY.
     CALL 'TSIDAC2' USING ACC-RECORD.
     .
     .
     .
```

Releasing GETVIS

The first time TSIDAC2 is called, TSIDAC2 acquires partition GETVIS storage for various purposes. If your program has more processing to do after finishing with TSIDAC2, the storage can be released. To release the storage:

Step	Action
1	Move low-values (hex 00) to USR-KEY.
2	Call TSIDAC2.

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Example

The following is an example of COBOL coding that you can use to release the storage.

```
PROCEDURE DIVISION.
     .
     .
     .
     MOVE LOW-VALUES TO USR-KEY.
     CALL 'TSIDAC2' USING DSN-RECORD.
     .
     .
     .
```


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ADDRESS EPIC

Description

ADDRESS EPIC provides an interface between BIM-EPIC and the Global Subsystem (BIM-GSS). Knowledge of how to write and create GREXX IMOD is assumed.

Return Codes

The following return codes are used.

Return Code	Explanation
0	Function completed normally.
-1	ADDRESS EPIC command is invalid.
-2	BIM-EPIC is not active.
-3	Unknown environment. Two possible causes: ■ The BIM-EPIC sub-library is not in the library search chain ■ VSE REXX is being used. As stated above, ADDRESS EPIC is only valid in a GREXX environment
-4	Invalid keyword on ADDRESS EPIC command line.
-5	Invalid keyword value for numeric operand.
-6	STEM keyword is missing.
-8	ID keyword is missing.
-9	Period is missing from STEM operand.
-10	STEM name is invalid.
-11	Insufficient GETVIS for VBUF work area.
-12	GRXEXCOM error return.
-13	GETDSA failure.

Command Forms

The following returns the current BIM-EPIC release. STEM *n* will be in the format *vv.rr.mm*.

```
ADDRESS EPIC 'EXTRACT RELEASE STEM n.'
```

The following returns the master record for the specified dataset when using the variable *ii*. If the dataset name is coded as a literal and has embedded blanks, the dataset name must be enclosed in single quotes (‘) or double quotes (“). If STEM *n.0* is null, the requested dataset was not found.

```
ADDRESS EPIC 'EXTRACT ID' ii 'STEM n.'
```

The following returns a BIM-EPIC dataset definition (EDD) record for all datasets whose dataset name begins with the character string in *ii*. STEM *n.0* indicates the total number of records returned as stem

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variables. If *n.0* is 0, there were no datasets found with a dataset name starting with the character string *ii*.

COUNT is required. The value *c* or * specifies the number of EDD records that can be returned. The value *c* specifies the maximum number of EDD records that can be returned. COUNT * will return all matching records.

SKIP may be used to specify the number of EDD records that will be bypassed before returning the records as stem variables.

In the following examples, REXX coding rules apply. That is, if an argument is a literal, the argument must be in quote marks. If the argument is a variable, the argument must be outside the quote marks. For example:

```
ADDRESS EPIC 'EXTRACT DSN ID' ii 'STEM n. COUNT' c 'SKIP' s
ADDRESS EPIC 'EXTRACT DSN ID' ii 'STEM n. COUNT  5 SKIP 8'
```

The following returns the master record for all datasets in the BIM-EPIC Catalog. The stem *n.0* indicates the total number of records returned as stem variables. If *n.0* is null, no datasets were found. COUNT may be used to specify the maximum number of records to return. Entering COUNT *, the default, will return all records. SKIP may be used to specify the number of records that will be bypassed before returning them as stem variables.

```
ADDRESS EPIC 'EXTRACT DSN ID * STEM n. COUNT' c 'SKIP' s
```

The following returns detail records for the dataset *ii*. The stem *n.0* indicates the total number of records returned stem variables. If *n.0*is null, there were no detail records found for the dataset *ii* or the dataset was not found in the BIM-EPIC Catalog. COUNT may be used to specify the maximum number of records that should be returned. Entering COUNT *, the default, will return all records associated with the datasets. SKIP may be used to specify the number of records that will be bypassed before returning them as stem variables.

```
ADDRESS EPIC 'EXTRACT DETAIL ID' ii 'STEM n. COUNT'c 'SKIP's
```

The following returns the detail record for the tape volume *v*. If stem *n.0* is null, the requested volume serial was not found.

```
ADDRESS EPIC 'EXTRACT VOL' v 'STEM n.'
```

Processing Output

If you need to use data records extracted by EXTRACT ID, EXTRACT DETAIL, or EXTRACT VOL instructions, you can decode the data records by including the GREXX member EPICREC.OAL in your IMOD. EPICREC.OAL is loaded into the MON PDS when Online Manager is installed.

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6

BIM-EPIC DD Statement

The BIM-EPIC statement is an MVS-style dataset label for VSE installations. For many users, the primary benefit of using the dataset definition (DD) statement is for compatibility with MVS, because the DD statement simplifies moving JCL between the two operating systems. The DD statement also offers several options which are unavailable with standard VSE labels, even when using BIM-EPIC TLBL and DLBL options.

Chapter Contents

DD Statements
DD Parameters

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DD Statements

DD Statement Overview

Description

All dataset definition (DD) statements follow the same format. The identifying characters are * //, which must be specified in columns 1 through 4. These are followed immediately by the DD name.

Syntax

The following provides an example of a DD statement syntax.

```
* //ddname  DD  parameter-expressions
```

Definitions

The following provides definitions for the parameters you can use with a DD statement syntax.

Parameter	Definition
ddname	Specifies the logical name for the dataset and performs the same function as the DTF filename. The *ddname* must begin in column 5.
DD	Identifies this as a DD JCL statement. At least one blank is required immediately before and immediately after DD operation code. Do not use the DD operation code in continuation statements.

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Parameter	Definition
parameter-expressions	Can follow in any order, except where noted otherwise. A *parameter-expression* consists of a parameter and its value(s) joined by an equal sign (=). These expressions must be separated from each other using commas or blank spaces. Numeric values are automatically zero-filled on the left, if required, eliminating the need to use leading zeros. Most DD parameters are MVS-compatible. However, some parameters are not compatible for: ■ Tape and disk datasets (including GDIUR datasets) ■ Standard VSE system datasets ■ SYSIPT data ■ Dummy datasets Not all MVS DD parameters are supported by the BIM-EPIC DD statement. BIM-EPIC ignores unsupported and unrecognized parameters and subparameters. Supported parameters are discussed later in this guide.

If you use a DD statement for a DTF that your program defines as a unit record DTF (DTFCD or DTFPR), the *ddname* is the SYS*nnn*, where *nnn* is the number specified in that DTF. A unit record DTF is generated for COBOL programs when the SELECT statement contains an assignment name that specifies the class UR.

Note:
Do not use *ddname* in continuation statements or concatenation statements.

Some DTF names have special meanings and are invalid for DD statements. See “DD Statement Names” in this chapter for additional information.

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DD Statement Syntax

Description

You can specify multiple parameters in the dataset definition (DD) statement syntax. Some parameters may have multiple subparameters. BIM-EPIC DD conventions conform to MVS conventions, for example, separating multiple parameters and subparameters with commas and enclosing multiple subparameters in parentheses.

Many subparameters are positional. If you omit a positional subparameter, you must include a comma in the position of the omitted subparameter for all but the last subparameter. For example:

```
* //SYS007  DD  DSN=SORTWK,UNIT=SYSDA,DISP=(NEW,DELETE),
* //            SPACE=(TRK,(5,5),RLSE),VOL=SER=DOSRES,
* //            VOL=(,RETAIN,,,REF=*.TAPEOUT)
```

All DD statements and continuations can extend through column 71. Parameters and their values cannot be continued and must be all on the same line.

Syntax

The following provides another example of a DD statement syntax.

```
* //ddname  DD  parameter,...,parameter,
* //            parameter,...,parameter
```

Continuation Rules

The following are parameter continuation rules you must consider.

Rule	Action
1	Interrupt the statement on or before column 71. The break must occur on a keyword boundary and must be a comma. Do not split subparameters and do not specify a comment after the comma.
2	Begin the next statement with the statement identifier * // in columns 1 through 4. Omit *ddname* and the DD operation code. The continuation may begin in any column as long as there is at least one blank after the * //. For ease in reading, it is recommended that all continuations begin in the same column.

MVS Compatibility

In MVS, the first parameter in a continuation line must begin in or before column 16. If you are specifying a DD statement for later use in MVS, begin your VSE continuations in or before column 18 to maintain compatibility. When moving the statement to MVS, delete the asterisk and the space that follows thereby shifting the rest of the statement two columns to the left. For example:

```
* //SYS007  DD  DSN=SORTWK,DISP=(NEW,DELETE),
* //            UNIT=SYSDA,VOL=SER=DOSRES,
* //            SPACE=(TRK,(5,5),RLSE)
```


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Specifying Dataset Drop

To take advantage of the BIM-EPIC dataset drop option, use multiple DD statements with the same dataset definition name. No special coding is required.

Note:
The dataset drop option is not valid under MVS. In addition, VSAM datasets, including VSAM-managed SAM datasets, are not eligible for a dataset drop. For example:

```
* //TAPEIN  DD  DSN=INVENTRY.1QTR(0),DISP=(OLD,KEEP)
* //TAPEIN  DD  DSN=INVENTRY.2QTR(0),DISP=(OLD,KEEP)
* //TAPEIN  DD  DSN=INVENTRY.3QTR(0),DISP=(OLD,KEEP)
```

WARNING:
Do not insert any other JCL, including * comment statements between the DD statements that are part of the dataset drop. Continuation statements are allowed since they are considered part of the DD being coded.

Concatenating Datasets

BIM-EPIC and MVS automatically concatenate all versions of a single input. You do not need to specify a version number on input, all versions are read sequentially, beginning with the current version. For example:

```
* //TAPEIN  DD  DSN=INVENTRY.1QTR,DISP=(OLD,KEEP)
```

To concatenate several versions of the same dataset or several different datasets, use a DD statement for each version or dataset and omit the *ddname* on all but the first statement. Submit the statements in the order they are to be processed. If block sizes differ, the version with the largest BLKSIZE *must* be specified first.

Note:
VSAM datasets, including VSAM-managed SAM datasets, cannot be concatenated. For example:

```
* //TAPEIN  DD  DSN=INVENTRY.1QTR(0),DISP=(OLD,KEEP)
* //        DD  DSN=INVENTRY.2QTR(0),DISP=(OLD,KEEP)
* //        DD  DSN=INVENTRY.3QTR(0),DISP=(OLD,KEEP)
```

WARNING:
Do not insert any other JCL, including * comment statements between the DD statements that are part of the concatenating datasets. Continuation statements are allowed since they are considered part of the DD being coded.

You can have BIM-EPIC check the syntax of DD statements before you run the job. To check the syntax, place a TYPRUN=SCAN parameter or TYPRUN=SCANS parameter in your JOB statement. For example:

```
// JOB PAYROLL  TYPRUN=SCAN
```


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```
*// INPUT DD …..
```

See Chapter 9, “TYPRUN ,” for additional information.

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DD Statement Names

Description

Several dataset definition (DD) statement names (ddnames) have special purposes in MVS. This section describes how BIM-EPIC uses these names.

Unsupported DD Names

Statements containing the following ddnames are ignored by BIM-EPIC. If needed in the job step, use standard VSE JCL to define datasets specified with the following names:

- JOBLIB
- STEPLIB
- SYSCHK
- SYSCKEOV
- SYSOUT
- SYSPRINT (changed automatically to SYSOUT)

Special DD Names

The following ddnames have special meaning to BIM-EPIC. If a DTF or COBOL SELECT uses one of these names for a different purpose, use standard VSE JCL to define the dataset.

- JOBCAT
- STEPCAT
- SYSABEND
- SYSMDUMP
- SYSUDUMP
- SYSIN

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The following provides additional information describing the special ddnames.

Name	Description

JOBCAT and STEPCAT	JOBCAT and STEPCAT define VSAM catalogs used for VSAM clusters. In the BIM-EPIC DD, JOBCAT and STEPCAT also define catalogs used for VSAM/SAM datasets. These extensions are not available in MVS.
	■ JOBCAT defines the catalog for the entire job stream.
	■ STEPCAT defines the catalog for a specific step.
	Note: STEPCAT overrides a JOBCAT definition for that step. If used, a JOBCAT DD must immediately follow the // JOB statement. If used, a STEPCAT DD must precede all VSAM labels which require that catalog. For example:
	`//JOB  VSAM UPDATE`
	`* //JOBCAT  DD  DSN=VSAM.JOB.CATALOG,DISP=SHR`
	`…`
	`…`
	`…`
	`* //STEPCAT DD  DSN=VSAM.STEP.CATALOG,DISP=SHR`
	`vsam labels`
	`// EXEC PROGRAM`
	`/&`

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Name	Description

SYSABEND, SYSUDUMP, SYSMDUMP	SYSABEND, SYSUDUMP, and SYSMDUMP determine the kind of dump that is produced when a job cancels. Their parameters are similar to the DUMP and PARTDUMP parameters of the VSE OPTION statement.
	■ SYSABEND and SYSUDUMP specify a standard partition dump.
	■ SYSMDUMP specifies a full supervisor and partition dump.
	You must specify the SYSOUT parameter with the SYSABEND, SYSUDUMP, and SYSMDUMP ddnames. In MVS, SYSOUT identifies a print class. In BIM-EPIC, class A indicates SYSLST, class B indicates SYSPCH.
	The following statement calls for a standard partition dump. The VSE JCL equivalent is // OPTION PARTDUMP.
	`* //SYSABEND DD SYSOUT=A`
	The following statement calls for a full supervisor and partition dump. The VSE JCL equivalent is // OPTION DUMP.
	`* //SYSMDUMP DD SYSOUT=A`

SYSIN	Use SYSIN to assign a logical unit to SYSIPT data.

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DD Parameters

Parameters for Tape and Disk Datasets

Description

This section provides descriptions for the tape dataset parameters and the disk dataset parameters as well as the purpose of each parameter.

Syntax

The following provides an example of the syntax showing the parameters available for use with tape datasets and disk datasets.

```
* //ddname  DD  DSN=dataset-name
                [ ,AMP=x ]
                [ ,DCB=x ]
                [ ,DISP=x ]
                [ ,FREE ]
                [ ,LABEL=x ]
                [ ,OPTION=x ]
                [ ,SPACE=x ]
                [ ,UNIT=x ]
                [ ,VOL=x ]
```

Parameters

The following provides a brief description of each parameter. Detailed information describing each parameter can be found later in this chapter.

Parameter	Description
AMP	Use the AMP parameter to define a VSAM cluster or a VSAM/SAM dataset.
DCB	Use the DCB parameter to define the dataset record characteristics. DCB is an MVS term that stands for dataset control block and is roughly analogous to the VSE DTF macro set. DCB determines the block size, logical record length, tape density, and dataset organization, for example, sequential, direct access, or indexed sequential for disk datasets.
DISP	Use the DISP parameter to specify the current status of the dataset and its disposition at normal or abnormal termination. For example, whether a dataset is new or existing, whether it should be retained at close or deleted, whether it should be cataloged or left uncontrolled. Because the DISP parameter specifies so much about a dataset, it can serve as documentation for your JCL and is sometimes used solely for that purpose when only default values are specified.

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Parameter	Description
DSN	Use the DSN parameter to specify the name or version of the dataset(s) you want to process. For input datasets, if you do not specify a particular version, all versions are read. This process is known as automatic concatenation. DSN is required for all tape datasets and disk datasets. The DSN parameter can specify CPU and partition independence or common work datasets. This is a BIM-EPIC extension not available with MVS.
FREE	Use the FREE parameter to specify how to handle tape drive assignments when the dataset is closed. When doing multi-dataset processing, use FREE to hold the assignment until all datasets have been processed. FREE is valid for tape datasets only.
LABEL	Use the LABEL parameter to determine how long to retain output datasets. The LABEL parameter is normally used for uncataloged datasets, but can be used for a cataloged dataset when you want to override the catalog-specified retention.
OPTION	Use the OPTION parameter to specify options available in VSE and BIM-EPIC which have no equivalents in MVS. OPTION is a BIM-EPIC extension.
SPACE	Use the SPACE parameter to specify disk space requirements for output datasets. SPACE specifies how much space to use and how to process the allocated space after the dataset is closed. SPACE is optional for cataloged datasets. You can use the parameter to specify an allocation size that is different from the size in the DSN Catalog or to inhibit truncation for a version. SPACE is required for Start Track 1 and uncontrolled datasets.
UNIT	Use the UNIT parameter to specify the type of device to use for an output dataset and for an uncontrolled input dataset. Device types include, but are not limited to, tape or disk, 3380 or 3390.
VOL	Use the VOLUME (VOL) parameter to specify which tape volume, disk volume, or disk pool to allocate for an output dataset or for an uncontrolled input dataset. For tape datasets, you can use VOL to specify rewind options for multi-dataset processing. VOL is not normally used for controlled datasets.

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Parameters for Processing Datasets

Description

This section describes the dataset definition (DD) statement parameters you can use to process different types of datasets.

The JCLOVRDE configuration option determines how DD parameters affect DSN Catalog entries. This configuration option applies only to datasets that exist in the catalog at the time the dataset is opened for output. If JCLOVRDE=NO, the DD parameters will override their catalog counterparts on a "one-time" basis. If JCLOVRDE=YES, the DD parameters will replace their catalog counterparts in the dataset catalog entry. The override will be permanent.

Tape

Use caution when specifying the VOLUME parameter, FREE parameter, and DISP parameter. VOLUME has several purposes. FREE holds and releases tape drive assignments. DISP=(*x*,KEEP) unloads tapes at close.

By default a tape is rewound but not unloaded at close, if you specify DISP=(*x*,KEEP), VOL=PRIVATE, or VOL=(,RETAIN).

Disk

The SPACE parameter is important when using disk processing. Use the SPACE parameter to determine extent allocations for datasets that are not in the DSN Catalog. SPACE is required for Start Track 1 and uncontrolled datasets. You can reuse the same extent with DISP=MOD. UNIT is required for disk output.

Cataloged

If the dataset is already defined in the catalog, specify DISP=(*x*,KEEP) for both input and output. You do not need to provide parameters if the information is in the catalog entry for that dataset. You can override cataloged parameters for a version by specifying the equivalent parameter in the DD statement. For example, you can override period retention by specifying LABEL=RETPD=*n*. If you want to permanently modify the current dataset definition in the BIM-EPIC Catalog, specify DISP=(*x*,CATLG). You must also set the JCLOVRDE=YES configuration option.

If a dataset is not in the catalog and you want to automatically catalog it (autocatalog), specify DISP=(NEW,CATLG). The new dataset is cataloged using the data in the DD statement. DD statements cannot be used to autocatalog an input dataset.

Note:
If your BIM-EPIC configuration options specify the use of autocataloging, when opened for output, a non-cataloged dataset will be cataloged automatically even if you do not specify DISP=(*x*,CATLG). The recommended method is to use DISP=(*x*,CATLG) to autocatalog all

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uncataloged datasets defined with DD statements. See Chapter 1, “Cataloging Datasets Automatically,” for additional information on autocataloging using configuration options.

The following example creates a new version of a previously cataloged dataset. The associated default block size is overridden. The actual block size is 4080.

```
* //TAPEOUT  DD  DSN=SARS.BACKUP,DISP=(NEW,KEEP),
* //             DCB=BLKSIZE=4080
```

The following example creates a new, uncataloged dataset. When created, the dataset is automatically cataloged. In addition, the values for block size, period retention, and density are entered in the dataset definition.

```
* //TAPEOUT  DD  DSN=SARS.BACKUP,DISP=(NEW,CATLG),
* //          DCB=(BLKSIZE=4080,DEN=3),LABEL=RETPD=7
```

Start Track 1 Datasets

To create a Start Track 1 dataset, use the SPACE parameter (SPACE=TRK, SPACE=CYL, or SPACE=ALR). You must use the VOLUME parameter to allocate the space to a disk pool. Do not catalog the dataset or specify DISP=(*x*,CATLG).

```
* //DISKOUT DD  DSN=TWORK.BG,DISP=(NEW,PASS),
* //            SPACE=(TRK,(10,5),RLSE),VOL=SER=POOL01,UNIT=DISK
```

Uncontrolled Datasets

To create an uncontrolled non-VSAM disk dataset on a POOL or non-POOL volume, use the SPACE=ABSTR and VOL parameters. No special parameters are required to create an uncontrolled tape dataset. Do not specify DISP=(*x*,CATLG). If you specify DISP=(*x*,CATLG), the dataset will be cataloged.

To use BIM-EPIC DD statements for uncontrolled disk datasets, the UNCDSK=YES configuration parameter must be set.

```
* //OPTOUT   DD  DSN=EPIC.LIBRARY,SPACE=(ABSTR,(100,20)),
* //             DISP=NEW,VOL=SER=SYSWK1,UNIT=DISK
```

VSAM/SAM Datasets

To process a VSAM/SAM dataset, use the AMP, DISP, and SPACE parameters for both input and output. You can use the VOLUME parameter to specify a disk volume. Identify the VSAM catalog using a STEPCAT DD statement or JOBCAT DD statement.

In the following example, the STEPCAT DD statement defines the catalog for the VSAM/SAM dataset. AMP=AMORG indicates that a VSAM or VSAM/SAM dataset is being defined. DISP=SHR allows the dataset to be accessed by other programs as it is processed. This example uses ALR to allocate space to the dataset, using a record size of 240 bytes, and allocates a primary extent large enough for 1000 records and a secondary extent large enough for 500 records.

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```
* //STEPCAT DD  DSN=CUSTOMER.CAT,DISP=SHR
* //VSAMSAM DD  DSN=CUSTOMER.MASTER,DISP=SHR,AMP=AMORG,
* //            SPACE=(240,(1000,500))
```

You can process existing VSAM datasets using BIM-EPIC DD statements. To process an existing VSAM dataset, include the AMP parameter in your statement. Define the VSAM catalog with a STEPCAT DD statement or JOBCAT DD statement. BIM-EPIC cannot create new VSAM IDCAMS datasets.

```
* //JOBCAT  DD  DSN=CUSTOMER.CAT,DISP=SHR
* //VSAMCLU DD  DSN=CUSTOMER.MASTER,DISP=SHR,AMP=AMORG
```


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AMP Parameter

Description

Use the AMP parameter to define a VSAM cluster or a VSAM/SAM dataset.

Syntax

The following provides an example of a AMP parameter syntax.

```
AMP=(AMORG [ ,BUFSP=x ])
```

Subparameters

The following provides a description of the subparameters you can use with the AMP parameter.

Subparameter	Required?	Valid	Default
AMORG	Yes	None	None
BUFSP	No	0 to 9999999	None

Definitions

The following provides definitions for the subparameters you can use with AMP parameter.

Subparameter	Definition
AMORG	Specifies that this is a VSAM cluster or VSAM/SAM dataset.
BUFSP	Specifies the number of bytes allocated as buffer space. If omitted, VSAM will determine the size of the buffer.

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DCB Parameter

Description

Use the DCB parameter to define the characteristics of the dataset. DCB subparameters override the DSN Catalog entry on output, but not on input.

Syntax

The following provides an example of a DCB parameter syntax.

```
DCB=( [ BLKSIZE=x ][ ,DEN=x ][ ,DSORG=x ][ ,LRECL=x ] )
```

Subparameters

The following provides a description of the subparameters you can use with the DCB parameter.

Subparameter	Required?	Valid	Default
BLKSIZE	No	1 to 32767 or MAX|OPT	None
DEN	No	See DEN table (below)	None
DSORG	No	See DSORG table (below)	PS
LRECL	No	1 to 32767	None

Definitions

The following provides definitions for the subparameters you can use with the DCB parameter.

Subparameter	Definition
BLKSIZE	Specifies a block size and is valid for sequential datasets only. If an integer value is used, it must be a multiple of the LRECL value. For MAX and OPT, BIM-EPIC will calculate the appropriate block size. MAX causes BIM-EPIC to use full-track blocking on disk. For tape, when using VSE/ESA 2.5 and later releases, BIM-EPIC uses a 64K block size. For earlier VSE releases, a block size of 32K is used. OPT causes BIM-EPIC to use half-track blocking for disk. For tape, when using VSE/ESA 2.5 or later releases, BIM-EPIC uses a 32K block size. For earlier VSE releases, a 16K block size is used.

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<table>
<tr><th>Subparameter</th><th colspan="2">Definition</th></tr>
<tr><td>DEN</td><td colspan="2">Specifies a recording density for tape datasets. Valid density codes are:</td></tr>
<tr><td></td><td>Code</td><td>Density</td></tr>
<tr><td></td><td>2</td><td>800 bpi</td></tr>
<tr><td></td><td>3</td><td>1600 bpi</td></tr>
<tr><td></td><td>4</td><td>6250 bpi</td></tr>
<tr><td></td><td>A</td><td>8809 streaming short gap</td></tr>
<tr><td></td><td>B</td><td>8809 start-stop long gap</td></tr>
<tr><td></td><td>C</td><td>8809 start-stop short gap</td></tr>
<tr><td></td><td>D</td><td>8809 streaming long gap</td></tr>
<tr><td></td><td>E</td><td>3480/3490 non-IDRC buffered write mode</td></tr>
<tr><td></td><td>F</td><td>3480/3490 IDRC buffered write mode</td></tr>
<tr><td></td><td>G</td><td>3424/9348 1600 bpi buffered write mode</td></tr>
<tr><td></td><td>H</td><td>3424/9348 1600 bpi unbuffered write mode</td></tr>
<tr><td></td><td>I</td><td>3424/9348 6250 bpi buffered write mode</td></tr>
<tr><td></td><td>J</td><td>3424/9348 6250 bpi unbuffered write mode</td></tr>
<tr><td></td><td>K</td><td>3490E cartridge device</td></tr>
<tr><td></td><td>L</td><td>3490E IDRC cartridge device</td></tr>
<tr><td></td><td>M</td><td>3592 cartridge device</td></tr>
<tr><td></td><td>¬ (X'5F')</td><td>None specified - use default density</td></tr>
<tr><td></td><td colspan="2">Codes A through M are BIM-EPIC extensions and are not recognized by MVS.</td></tr>
<tr><td>DSORG</td><td colspan="2">Specifies the organization of the dataset. DSORG is required for direct access and indexed sequentially datasets only. Valid codes are:</td></tr>
<tr><td></td><td>Code</td><td>Organization</td></tr>
<tr><td></td><td>DA or DAU</td><td>Direct access</td></tr>
<tr><td></td><td>IS or ISU</td><td>Indexed sequential</td></tr>
<tr><td></td><td>PS or PSU</td><td>Sequential</td></tr>
<tr><td></td><td colspan="2">When using MVS, there are two options for each type of dataset organization. Specifying U indicates that the dataset is unmovable, so the same extents are used every time. When PSU, DAU, or ISU is specified and the dataset is a disk work dataset, BIM-EPIC allocates the same extents to the dataset that it already occupies. If you are going to convert to MVS, choose your dataset organization carefully.</td></tr>
</table>

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Subparameter	Definition
LRECL	Specifies the logical record length of a record in the dataset. The number indicated must be less than or equal to the record length specified in the DTF or FD entry. If the logical record length is greater, the LRECL subparameter is ignored.

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DISP Parameter

Description

Use the DISP parameter to identify how to open a dataset and what is to be done to the dataset when it is closed. DISP subparameters define the initial usage, normal termination, and abnormal termination disposition of a dataset. If more than one subparameter is used, the subparameter list must be enclosed in parentheses.

For all but the last subparameter, when a subparameter inside the list is not specified, a comma must be used to specify that the default value will be used.

Syntax

The following provides an example of a DISP parameter syntax.

```
DISP=[initial-usage-status][,normal-end-status]
[,abnormal-end-status]
```

Subparameters

The following provides a description of the subparameters you can use with the DISP parameter.

Subparameter	Required?	Default
initial-usage-status	No	New
Specify one of the following (optional):		
NEW	No	New
OLD	No	New
SHR	No	New
MOD	No	New
normal-end-status	No	
Specify one of the following (optional):		
CATLG	No	
CONDCAT	No	
DELETE	No	
KEEP	No	KEEP if *initial-usage* is OLD or MOD
PASS	No	PASS if *initial-usage* is NEW or SHR
abnormal-end-status	No	Normal-end-status
Specify one of the following (optional):		
CATLG	No	None
DELETE	No	None
KEEP	No	None

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Definitions

The following provides definitions for the subparameters you can use with the DISP parameter.

Subparameter	Definition
initial-usage-status	Specifies the status of a dataset at the time the dataset is opened. If *initial-usage-status* is not specified, NEW is used.
normal-end-status	Specifies the action taken for the dataset if the job step ends normally. If *normal-end-status* is not specified, PASS is used if *usage-status* is NEW or MOD. KEEP is used if *usage-status* is OLD or SHR.
abnormal-end-status	Specifies the action taken for the dataset if the job step ends abnormally. If *abnormal-end-status* is not specified, the *normal-end-status* specification is used.

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<table>
<tr><th>Subparameter</th><th colspan="2">Definition</th></tr>
<tr><td>CATLG</td><td colspan="2">Performs one of two functions:
Catalogs the dataset automatically if no DSN Catalog entry for the dataset exists.
Updates selected dataset definitions in the DSN Catalog, if configuration option JCLOVRDE=YES is specified. CATLG can also update these dataset definitions for already existing datasets:</td></tr>
<tr><td></td><td>Tape/Disk</td><td>Retention
Block size</td></tr>
<tr><td></td><td>Tape Only</td><td>Tape pool
Density</td></tr>
<tr><td></td><td>Disk Only</td><td>Disk pool
CISIZE
Primary extent size
Secondary extent size
Maximum number of secondary extents</td></tr>
<tr><td></td><td colspan="2">If the DDGEN configuration option is set to NO, tape datasets are cataloged as generation datasets and disk datasets are cataloged as non-generation datasets. The exception to this occurs when LABEL=RETPD=xx is specified for a disk dataset. When this occurs, the disk dataset is cataloged as a generation dataset.
Note: If the DDGEN configuration option is set to YES, both the tape datasets and disk datasets are automatically cataloged as non-generation datasets, unless a plus sign (+) is found in the DSN parameter. The settings for the automatic cataloging configuration options, AUTOCAT and AUTOLOG, do not affect CATLG.</td></tr>
<tr><td>CONDCAT</td><td colspan="2">Conditionally catalogs the version.
Note: The CONDCAT subparameter is not available in MVS; it is a BIM-EPIC extension.</td></tr>
</table>

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Subparameter	Definition
DELETE	Causes the dataset to be scratched automatically, after the dataset has been closed. The setting of the DDGEN configuration parameter determines whether the scratch process is done when the dataset is closed, at end-of-step (EOS), or at end-of-job (EOJ). See DISP Parameter for more information.
KEEP	Determines the status of a closed dataset. For *normal-termination*, if KEEP is explicitly specified for tape datasets, the tape will be unloaded at close. If KEEP is not explicitly specified, the tape will not be unloaded at close. VOL=RETAIN overrides KEEP. For DISK datasets, KEEP means the Format 1 entry for the dataset remains in the VTOC. For *abnormal termination*, KEEP is the default disposition unless both of the following conditions are true: ■ Normal termination disposition is DELETE. ■ Configuration option PURBYP is set to NO.

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Subparameter	Definition
MOD	Specifies that new data is to be added/appended to an existing tape version. If using a disk version, the existing data will be overwritten. For both tape and disk, if there is no existing version, a new version will be created. When used for tape, MOD removes the existing end-of-file (EOF) marker and writes new data beginning at that point. A new EOF will be created when the dataset is closed. When used for disk, MOD reuses the extents used in the last/most recent version. This destroys any existing data. **Note:** MOD can be specified only for non-generation disk datasets. ⚠ **WARNING:** *MOD does not extend an existing disk dataset as it does for tape or as it does in MVS. If MOD is specified for an existing disk dataset that is opened as output, the same extent is used but records are written at the beginning of the dataset. Any data already in the dataset is overwritten and lost.*
NEW	Specifies a new dataset or a new version of an existing dataset.
OLD	Specifies a version of an existing dataset.
PASS	Retains the version for use in a later step in the same job.
SHR	Specifies an existing dataset. Data in the dataset will be appended if tapes are used or overwritten if disks are used. Use KEEP and CATLG to retain the dataset if the job cancels via an abnormal termination. The default disposition for abnormal termination depends on both the normal termination subparameter and the PURBYP configuration option.

Using DDGEN with the DISP Parameter

The DDGEN configuration option specifies when a dataset version is to be deleted based on the DISP parameter.

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The following table describes the basic DISP and DDGEN combinations. For those combinations not explicitly defined in the table, the following rules apply:

- If `usage-status` is SHR, the status will be treated the same as OLD.
- If `usage-status` is MOD, the status will be treated the same as OLD if there is an existing version. If an existing version does not exist, the status will be treated the same as NEW.
- The CONDCAT `normal-end-status` will be treated the same as KEEP.
- The CATLG `normal-end-status` and `normal-end-status` will be treated the same as KEEP.

In all other cases, if there is no entry in the table, no deletion occurs.

When DISP=	If DDGEN=NO, then...	If DDGEN=YES, then...
NEW	deletes at end-of-job	deletes at end-of-step
NEW,KEEP	deletes at end-of-job	deletes at end-of-step
NEW,KEEP,KEEP	deletes at end-of-job only if good eoj	deletes at end-of-step only if good eoj
NEW,KEEP,DELETE	deletes at end-of-job only if job abends	deletes at end-of-step only if step abends
NEW,DELETE	deletes at end-of-job	deletes at end-of-step
NEW,DELETE,KEEP	deletes at end-of-job only if good eoj	deletes at end-of-step only if good eoj
NEW,DELETE,DELETE	deletes at end-of-job	deletes at end-of-step
NEW,PASS	deletes at end-of-job	deletes at end-of-job
NEW,PASS,KEEP	deletes at end-of-job only if good eoj	deletes at end-of-job only if good eoj
NEW,PASS,DELETE	deletes at end-of-job	deletes at end-of-job
OLD	(Note 1)	(Note 1)
OLD,KEEP	(Note 1)	(Note 1)
OLD,KEEP,KEEP	(Note 1)	(Note 1)
OLD,KEEP,DELETE	deletes at end-of-job only if job abends	deletes at end-of-step only if step abends
OLD,DELETE	deletes at close (Note 2)	deletes at end-of-step
OLD,DELETE,KEEP	deletes at end-of-job only if good eoj	deletes at end-of-step only if good eoj
OLD,DELETE,DELETE	deletes at close (Note 2)	deletes at end-of-step
OLD,PASS	deletes at end-of-job	deletes at end-of-job
OLD,PASS,KEEP	deletes at end-of-job only if good eoj	deletes at end-of-job only if good eoj
OLD,PASS,DELETE	deletes at end-of-job only if job abends	deletes at end-of-step only if job abends

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Note:
(1) DISP=(OLD,KEEP) and DISP=(OLD,KEEP,KEEP) will automatically reset any "delete at end-of-step" or "delete at end-of-job" action currently in effect for the specified dataset.

Note:
(2) Normal deletion will occur at file close but, when used in conjunction with the automatic concatenation feature, deletion will occur at end-of-step. If usage is MOD, deletion will occur at end-of-job.

In cases of abnormal termination, you can override the end-of-step and end-of-job deletions. To do this, set the PURBYP configuration option to YES.

BIM-EPIC does not delete datasets at end-of-step or end-of-job unless the datasets have been opened. This default can be changed to do deletions even though the dataset has not been opened. Both the DDGEN and EPS049 configuration options must be set to YES.

Additional DISP Settings

For both normal and abnormal terminations, DISP settings are treated as follows:

Setting	Is Treated Like...
DISP=MOD	DISP=NEW
DISP=SHR	DISP=OLD
DISP=(*xxx*,CATLG) DISP=(*xxx*,CONDCAT)	DISP=(*xxx*,KEEP)
DISP=(,*xxx*)	defaults to DISP=(NEW,*xxx*)

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DSN Parameter

Description

Use the DSN parameter to specify the name of the dataset being processed. The DSN parameter is required for all tape datasets and disk datasets. It also determines which version or versions of the dataset will be used for input.

The rules for dataset names with DD statements are slightly different from the rules for dataset names with standard VSE JCL. Tape dataset names and disk dataset names can be up to 44 characters. Generation dataset names are limited to 35 characters. These limitations are set because EPIC places the generation number into the VSE Format 1 label in the format of G=*nnnnnnnn*. The G= information does not appear when displayed in Online Manager or TSIDMNT reports. If the dataset name contains embedded blanks, enclose the name in apostrophes.

Note:
Only the first 17 characters of the dataset name are written on a tape HDR1 label. BIM-EPIC internally manages the remaining characters if the DSN exceeds 17 characters.

Syntax

The following provides an example of a DSN parameter syntax.

DSN=*dataset-name* [.G*nnnn*[V*nnn*]|(0)|(-*n*)|(+*n*)|(*area*)]

or

DSN=*&*[*&*]*dsname*

Subparameters

The following provides a description of the subparameters you can use with the DSN parameter.

Subparameter	Required?	Valid	Default
dataset-name	Yes	1 to 44 characters	None
.G*nnnn*[V*nnn*]	No	Generation number	None
n	No	Zero or signed integer	See text
area	No	INDEX|PRIME|OVFLOW	None

Definitions

The following provides definitions for the subparameters you can use with the DSN parameter.

Subparameter	Definition
dataset-name	Specifies the dataset name.

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Subparameter	Definition
.Gnnnn[Vnnn]	Specifies a disk version by generation number. Insert the generation number after the G, but before the V, if a generation number exists. The V*nnn* portion of the parameter is ignored by BIM-EPIC and can be omitted. The V*nnn* portion is included for MVS compatibility only. In practice, as in MVS, this form is not usually used. Use - or + forms instead.
(0) *(-n)* *(+n)*	Specifies a version-by-version number. ■ (0) Zero indicates the current version. ■ (-) Minus indicates a previous version for input. ■ (+) Plus indicates a new version for output. ⚠ **WARNING:** *For generation datasets used as input, if a dataset name does not contain a version, all existing versions of the dataset will be concatenated and read!* For MVS compatibility, a 0 (zero) specifies the current version instead of 1, as in the DSN Catalog. That means when you enter a version number containing a minus sign, the version number should be one less than the DSN Catalog version number. For example, if the DSN Catalog version number is 3, specify DSN=*dataset-name*(-2). **Note:** You do not need to specify (+*n*) for output datasets. Specifying the dataset name is sufficient to create a new version. However, if the DDGEN configuration parameter is set to YES, specifying (+*n*) with DISP=(*x*,CATLG) causes disk datasets to be cataloged as generation datasets. If DDGEN is set to NO and you do not specify LABEL=RETPD or LABEL=EXPDT, the dataset is cataloged as a non-generation dataset.
area	Specifies which ISAM dataset area is being defined. ■ INDEX indicates the cylinder index component. ■ PRIME indicates the prime data area. ■ OVFLOW indicates the overflow area.

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Subparameter	Definition
&&dsname *&dsname*	Specifies work datasets. In MVS, placing two ampersands (&&) before a dataset name indicate a temporary dataset. In BIM-EPIC, two ampersands (&&) before a dataset name indicate CPU and partition independence. A single ampersand (&) indicates CPU independence only. The dataset name can be up to 44 characters. CPU and partition independence can also be indicated using an equal sign (=) or a dollar sign ($), as with TLBL and DLBL statements. See Chapter 7, "CPU and Partition Independence," and "Common Work Datasets" for additional information. **Note:** These are BIM-EPIC extensions. MVS does not support equal signs and dollar signs. The MULTCPU configuration option affects CPU independence.

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FREE Parameter

Description

Use the FREE parameter to specify when to release a tape drive assignment. FREE is valid for tape datasets only. When you are processing multi-dataset tapes, you must specify FREE=END for every dataset *except* the last one processed in the job. An example of this is at the end of this section.

Syntax

The following provides an example of a FREE parameter syntax.

```
FREE={CLOSE|END}
```

Subparameters

The following provides a description of the subparameters you can use with the FREE parameter.

Subparameter	Required?	Valid	Default
Specify one of the following (required):			
CLOSE	No		Yes
END	No		None

Definitions

The following provides definitions for the subparameters you can use with the FREE parameter.

Subparameter	Definition
CLOSE	Releases the assignment when the dataset is closed. This is the default setting.
END	Releases the assignment at the end of the job.

Example

The following example shows how the FREE parameter is used to hold the assignment until the last dataset is closed.

```
* //INPUT1  DD  DSN='INPUT.DSN.1'
* //            UNIT=TAPE,
* //            DISP=(OLD,KEEP),
* //            FREE=END,
* //            VOL=(,RETAIN)
* //INPUT2  DD  DSN='INPUT.DSN.2'
* //            UNIT=TAPE,
* //            DISP=(OLD,KEEP),
* //            FREE=END,
* //            VOL=(,RETAIN)
* //INPUT3  DD  DSN='INPUT.DSN.3',
* //            UNIT=TAPE,
* //            DISP=(OLD,KEEP)
```


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LABEL Parameter

Description

Use the LABEL parameter to define the dataset retention. You can specify an explicit expiration date or specify the number of days for the dataset retention period.

The LABEL parameter overrides the CYCL and RETEN configuration options. If a dataset is being autocataloged for the first time, the new EDD will take the LABEL value. If a dataset is already cataloged, a new version will take the LABEL value instead of the EDD value.

LABEL is valid only with DISP=NEW. If you specify LABEL=EXPDT or LABEL=RETPD with DISP=(NEW,CATLG), the dataset is cataloged as a generation dataset.

Syntax

The following provides an example of a LABEL parameter syntax.

```
LABEL={EXPDT={yyddd or yyyy/ddd}|RETPD=nnnn}
```

Subparameters

The following provides a description of the subparameters you can use with the LABEL parameter.

Subparameter	Required?	Valid	Default
Specify one of the following (required):			
EXPDT	No	00001 to 99365 2000/001 to 2099/365	None
RETPD	No	1 to 9999	See below

Definitions

The following provides definitions for the subparameters you can use with the LABEL parameter.

Subparameter	Definition
EXPDT	Specifies an expiration date for a dataset. You must enter the date in Julian format. For example, if the date is December 31, 1992, enter 92365. If the date is January 1, 2000 or later, you can specify the full year with a slash between the year and the day. For example, if the date is January 1,2000, enter 2000/001or you can omit the slash and enter 2000001.
RETPD	Specifies the number of days to retain the dataset. If the LABEL parameter is omitted or LABEL=RETPD=7 is specified, the RETEN configuration option value will be used. Otherwise, the value specified will be used.

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Examples

The following is an example using the LABEL parameter.

```
* //OUTPUT  DD  DSN=OUT.DATA.SET,LABEL=EXPDT=98365,
* //            DISP=(NEW,KEEP)
* //OUTPUT  DD  DSN=OUT.DATA.SET,LABEL=RETPD=5,
* //            DISP=(NEW,KEEP)
```


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OPTION Parameter

Description

Use the OPTION parameter to invoke a BIM-EPIC feature where there is no equivalent MVS JCL parameter. OPTION can be used to:

- Selectively activate disk allocation messages
- Specify the name of an applicable VSAM catalog
- Specify an FBA CISIZE
- Specify a specific logical unit number
- Specify a tape pool ID
- Base current disk allocation size on the size used by a different dataset
- Selectively remove a VSE label from the label area
- Override rewind options specified by DISP or VOL parameters

When you use multiple subparameters, they must be separated by commas and the list must be enclosed in parentheses. The subparameters are not positional, so it is not necessary to use commas in place of unspecified subparameters.

Syntax

The following provides an example of an OPTION parameter syntax.

```
OPTION={
[ ,ALLMSGS ]|[ ,CAT=ddname ]|[ ,CISIZE=n ]|[ ,NOREW ]|
[ ,RESET ]|[ ,REW ]|[ ,RUN]|[ ,SPACE=*.ddname[x] ]|
[ ,SYSnnn ]|[ ,TPL=x ]
}
```

Subparameters

The following provides a description of the subparameters you can use with the OPTION parameter.

Subparameter	Required?	Valid	Default
ALLMSGS	No		ALLMSG and ALLMALL Configuration Option settings
CAT=*ddname*	No		None
CISIZE=*n*	No	512, 1024, 2048, 3072, 4096	None
NOREW	No		See below
RESET	No		OFF
REW	No		See below

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Subparameter	Required?	Valid	Default
RUN	No		See below
SPACE=	No	1 to 15 characters	None
SYS*nnn*	No	000 to 254|RDR|IPT|LST|PCH	None
TPL=	No	A to Z or 0 to 9 (Use "¬" {X'5F} to indicate no TPL value is desired)	None

Definitions

The following provides definitions for the subparameters you can use with the OPTION parameter.

Subparameter	Definition
ALLMSGS	Overrides configuration options ALLMALL=NO (default) and ALLMSG=NO for the dataset in the current job step only. ALLMSGS causes all allocation messages for the disk dataset to be displayed. The ALLMSGS subparameter performs the same function as the BIM-EPIC DLBL option code M. The ALLMSGS subparameter is valid for disk datasets only and is ignored if specified for a tape dataset.
CAT=*ddname*	Specifies the DD name used in a previous DD or DLBL statement to define the VSAM catalog to be used for this dataset. Use this parameter only when you are defining a VSAM dataset. CAT=ddname overrides any JOBCAT or STEPCAT statement for the dataset.
CISIZE=*nnnn*	Specifies the CISIZE to use for an FBA disk dataset according to IBM rules. **Note:** If the dataset is a Start Track 1 dataset and CISIZE=nnnn is specified, specification of the maximum number of secondary extents in the VOLUME parameter is ignored.
NOREW	Specifies that the tape is not rewound at close. NOREW overrides any rewind option set by the DISP or VOL parameters.

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Subparameter	Definition

RESET	Ends the Generic Device Independence for Unit Record (GDIUR) control of a dataset. If you use OPTION=RESET, it must be the only parameter specified on the DD statement with other OPTION subparameters used.
	
	A dataset definition (DD) statement with OPTION=RESET is required when the job does not contain TLBL, DLBL, or DD statements in any step following the DD statement used to invoke GDIUR control of the dataset. The ddname on the DD statement that specifies OPTION=RESET must be the same as the ddname on the DD statement used to invoke GDIUR control of the dataset.
	
	In the following example, SYSIPT control statements are read by the first LIBR execution from the tape or disk dataset SYSIPT.DATA. The second DD statement for IJSYSIN with the OPTION=RESET insures that the SYSIPT control statements for the second LIBR execution will be read from the instream data, not from the disk dataset SYSIPT.DATA.
	
	`* //IJSYSIN  DD  DSN=SYSIPT.DATA,DISP=OLD`
	`// EXEC LIBR`
	`/*`
	`* //IJSYSIN  DD  OPTION=RESET`
	`// EXEC LIBR`
	`  LD L=IJSYSRS`
	`/*`

REW	Rewinds the tape at close. REW overrides any default rewind options set for the DISP or VOL parameters.
RUN	Unloads a tape at close. RUN overrides any default run options set for the DISP or VOL parameters.

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Subparameter	Definition
SPACE=*.*ddname*[*x*]	Specifies that the primary extent allocation will be based on the amount of space used by the dataset previously defined in the same job step. Use the ddname parameter to identify the dataset. RLSE is automatically invoked with SPACE refer-back. There are several ways you can specify the size of the allocation: ■ To specify dataset is to be exactly the same size as the referenced dataset, use the format: SPACE=*.*ddname* ■ To specify a dataset is to be larger than the referenced dataset by an exact number of tracks or FBA blocks, use the format: SPACE=*.*ddname*+*n* where *n* is the number of tracks or FBA blocks to be added to the size of the referenced dataset. ■ To specify that a dataset is to be smaller than the referenced dataset by an exact number of tracks or FBA blocks, use the format: SPACE=*.*ddname*-*n* where *n* is the number of tracks or FBA blocks to be subtracted from the size of the referenced dataset. An error will result if the calculated allocation is not a positive number. ■ To specify that the size of the dataset is to be a percentage of the size of the referenced dataset, use the format: SPACE=*.ddname**n* where *n* is a number between 000.01 and 999.99. Leading zeroes are not required. If the referenced dataset is cataloged, the allocation will be based on the amount of space the referenced dataset actually occupies. This space includes the sum of the primary extent allocation and all secondary extent allocation. If the referenced dataset is uncataloged, the allocation will be based on the amount of space in the primary extent of the referenced dataset. The following DD statement defines the referenced dataset. * //REFFILE DD DSN=dataset-name,DISP=SHR

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Subparameter	Definition

SPACE=*.*ddname*[*x*] (continued)	■ To allocate a new dataset one track larger than the space the referenced dataset occupies, specify:
	`* //FILEOUT DD DSN=dataset-name,DISP=(NEW,CATLG)`
	`* //UNIT=SYSDA,OPTION=SPACE=*.REFFILE+1`
	■ To allocate a new dataset five tracks smaller than the space the referenced dataset occupies, specify:
	`* //FILEOUT DD DSN=dataset-name,DISP=(NEW,CATLG)`
	`* //UNIT=SYSDA,OPTION=SPACE=*.REFFILE-5`
	■ To allocate a new dataset half of the space occupied by the referenced dataset, specify:
	`* //FILEOUT DD DSN=dataset-name,DISP=(NEW,CATLG)`
	`* //UNIT=SYSDA,OPTION=SPACE=*.REFFILE*.5`
	■ To allocate a new dataset twice the space occupied by the referenced dataset, specify:
	`* //FILEOUT DD DSN=dataset-name,DISP=(NEW,CATLG)`
	`* //UNIT=SYSDA,OPTION=SPACE=*.REFFILE*2`

SYS*nnn*	Causes the specified SYS number to be assigned to this dataset. Replace *nnn* with the appropriate programmer logical unit number or RDR, IPT, PCH, or LST. If necessary, you can use OPTION=SYS*nnn* to satisfy the checking that some programs do before a dataset is opened. This checking is performed by programs such as IBM's SORT/MERGE. For most jobs, this checking eliminates the need to execute TSIDASS ASSGN for tape datasets or to use // ASSGN statements for disk datasets. For disk datasets, ensure that the pool name is specified in the DSN Catalog or on the VOL=SER parameter.
TPL=*x*	Specifies a tape pool to be used for new tape datasets. TPL=*x* is recognized only when DISP=(NEW,CATLG) is specified causing a new dataset to be automatically cataloged or an existing dataset to be updated. Updating is only allowed with configuration option JCLOVRDE=YES.

Example

The following example shows how the OPTION parameter is used.

```
// JOB IDCAMS  REPRO DISK TO TAPE
* //IN    DD DSN=DISK.SEQ,DISP=OLD,
* //         UNIT=DISK,OPTION=SYS007
* //OUT   DD DSN=DISK.SEQ.BACKUP,OPTION=SYS005,
* //         DISP=(NEW,KEEP,DELETE)
// EXEC IDCAMS,SIZE=AUTO
   REPRO INFILE(IN -
   ENVIRONMENT (RECFM(FIXBLK) BLKSZ(800) RECSZ(40) )) -
```


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```
   OUTFILE(OUT -
   ENVIRONMENT -
   ( PDEV(2400) RECFM(FIXBLK) BLKSZ(8000) RECSZ(40) ))
/*
/&
```


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SPACE Parameter

Description

Use the SPACE parameter to specify the disk dataset allocation. In addition, use SPACE to:

- Specify allocation size
- Permit or inhibit truncation at close for an output dataset
- Invoke dataset fragmentation if contiguous space is unavailable
- Align allocation on track or cylinder boundaries on CKD devices

Use parentheses to enclose the SPACE positional subparameters. Additional parentheses are used to enclose the actual allocation amounts when supplying a prime allocation size with a secondary size and/or an index size. SPACE has two syntax types of syntax, one for BIM-EPIC-controlled datasets and one for uncontrolled datasets.

Note:
The UNCDSK configuration option allows use of DD statements for uncontrolled disk datasets.

Controlled Dataset Syntax

The following provides an example of using SPACE for a controlled dataset.

```
SPACE=(type,(size-spec)[,RLSE,frag-control,ROUND)]
```

Subparameters

The following provides a description of the subparameters you can use with the SPACE control dataset. There are no defaults for the subparameters.

Subparameter	Required?	Default
type	Yes	None
Specify one of the following (required):		
TRK	No	None
CYL	No	None
Specify all that apply:		
block-length	Yes	None
size-spec	Yes	None
primary-qty	Yes	None
secondary-qty	Yes	None
index	Yes	None
RLSE	No	None
frag-control	No	None

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Subparameter	Required?	Default
If used, specify one of the following (optional):		
CONTIG	No	None
MXIG	No	None
ALX	No	None
ROUND	No	None

Definitions

The following provides definitions for the subparameters you can use with the SPACE control dataset.

Subparameter	Definition
type	Specifies type of allocation.
TRK	Specifies allocation in tracks or FBA blocks.
CYL	Specifies allocation in cylinders and forces the dataset to begin and end on cylinder boundaries.
block-length	Specifies the block size of a dataset for allocation by number of logical records (ALR). In addition, *block-length* can used to specify the record size of VSAM/SAM datasets.
size-spec	Specifies size, is required and must be enclosed in parentheses. S*ize-spec* takes the form: *primary-qty*[,*secondary-qty*][,*index*]
primary-qty	Specifies the amount of the primary allocation in tracks, FBA blocks, cylinders, or number of logical records, depending on the value specified by type. To use the SPACE parameter to indicate an option for a cataloged dataset, such as fragmentation, no truncation, or align on cylinder boundaries, without affecting the allocation size, specify 0 (zero) in *primary-qty*. When *primary-qty* is 0, BIM-EPIC uses the allocation size specified in the dataset definition.
secondary-qty	Specifies the size of secondary allocations. To specify a maximum number of secondary allocations, use the VOLUME.
index	Specifies the size of the index component for an ISAM dataset. Use *index* only when both the prime area and the index area are defined with a single set of parameters. If you use *index* but omit *secondary-qty*, you must include a comma for *secondary-qty*, since these parameters are positional.

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Subparameter	Definition
RLSE	Causes unused allocated space to be truncated when the dataset is closed. If RLSE is not specified, truncation does not occur. **Note:** For cataloged datasets, if the DD SPACE parameter is not coded, truncation will occur.
frag-control	
CONTIG	Specifies that each allocation must be made using consecutive tracks or blocks for the entire allocation amount. This is the same as the DLBL option code H.
MXIG ALX	Specify fragmentation without operator intervention. This is the same as the DLBL option code F. You can specify only one of the CONTIG, MXIG, or ALX subparameters. MXIG and ALX have different meanings in MVS. See an MVS JCL manual for additional information.
ROUND	Specifies allocation alignment on a cylinder boundary.

Examples

In the following example for a controlled dataset, the dataset asks for primary and secondary allocations of 5 cylinders. Unused space will be released. The dataset will be automatically cataloged.

```
* //DISKIN  DD  DSN=INVENTRY.FILE,SPACE=(CYL,(5,5),RLSE),
* //            DISP=(NEW,CATLG)
```

In the following example, the same exact space requirements are set. However because the DISP parameter does not tell BIM-EPIC to automatically catalog the dataset, the dataset is treated as a Start Track 1 dataset. The VOLUME parameter is also specified because it is required for a Start Track 1 dataset.

```
* //DISKIN  DD  DSN=INVENTRY.FILE,SPACE=(CYL,(5,5),RLSE),
* //            DISP=(NEW,KEEP),VOL=SER=SYSWK1
```

Uncontrolled Dataset Syntax

The following provides an example of a SPACE uncontrolled dataset syntax:

SPACE=(ABSTR,(*size-specification)*)

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Subparameters

The following provides a description of the subparameters you can use with the SPACE uncontrolled datasets.

Subparameter	Required?	Valid	Default
ABSTR	Yes		None
size-specification	Yes		None
start-address	No	512, 1024, 2048, 3072, 4096	None
index	No		None

Definitions

The following provides definitions for the subparameters you can use with the SPACE uncontrolled dataset.

Subparameter	Definition
ABSTR	Specifies the allocation requirements for an uncontrolled dataset. The dataset will be allocated at the address you specify in the parameters.
size-specification	Specifies size, is required and must be enclosed in parentheses. S*ize-spec* takes the form: *primary-qty*, *start-address* [,*index*]
primary-qty	Specifies the size of the primary allocation in tracks or FBA blocks.
start-address	Specifies the starting relative track or FBA block as in the VSE EXTENT statement.
index	Use for ISAM datasets only when both the prime data area and index data area are defined using a single set of parameters. The parameter specifies the size of the index component for an ISAM dataset.

Note:
The values for *primary-qty*, *start-address*, and *index* are positional and must be enclosed in parentheses.

Example

The following example shows an uncontrolled dataset. BIM-EPIC creates a label indicating the extent begins at relative track 1680 and is 5 tracks long. It is on the SYSWK1 volume.

```
* //DISKIN  DD  DSN=INVENTRY.FILE,SPACE=(ABSTR,(5,1680)),
* //            DISP=(NEW,KEEP),VOL=SER=SYSWK1
```


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UNIT Parameter

Description

Use the UNIT parameter to specifies a device or device type for processing. UNIT is required for disk output datasets. UNIT is optional for input datasets that are controlled by the DSN Catalog. If UNIT is not specified, UNIT=TAPE is assumed, unless the dataset name begins with $$$. When a dataset name begins with $$$, common work dataset, UNIT=DISK is forced.

You can also use a group name to request a unit from a group of identical units. For disk datasets, BIM-EPIC chooses a volume from a volume in the disk pool specified in the VOLUME parameter. For tape datasets, BIM-EPIC selects a tape drive based on the mode setting associated with the device-type specified, if one exists, or associated to the default MODE setting in the datasets's catalog entry.

For uncontrolled disk datasets, you can use a group name such as UNIT=DISK. However, you must also specify a specific volume serial number in the VOLUME.

With MVS, you can specify a pool name when using UNIT. With BIM-EPIC DD statements, you must also specify the VOL=SER parameter.

Syntax

The following provides an example of a UNIT parameter syntax.

`UNIT={`*`group-name`*`|`*`device-type`* `[,`*`cuu`*`]}`

Subparameters

The following provides a description of the subparameters you can use with the UNIT parameter.

Subparameter	Valid	Default
Specify one of the following (required):		
group-name	DISK|SYSDA|TAPE|IDRC|CART	TAPE
device-type	See text	None
cuu		None

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Definitions

The following provides definitions for the subparameters you can use with the UNIT parameter.

Subparameter	Definition
group-name	Specifies a generic request for a device group. This is the most generic kind of request. In MVS, *group-name* specifies a particular category of device defined in MVS customization. In BIM-EPIC, valid groups are: ■ DISK or SYSDA specifies any disk device. ■ TAPE specifies any tape device (does not override default MODE). ■ IDRC specifies an IDRC-capable tape drive. ■ CART specifies a 3480 non-IDRC drive. ■ TPA specifies a 3590 or 3592 drive. For 3592s, DCB=(DEN=M) is also required.
device-type	Specifies a device type, such as FBA, 3390, 3480. See the IBM VSE *System Control Statements* manual for valid device types. See the tape and disk device-classes for the ASSGN statement. The following are the associated mode settings for tape devices, if they have not been overwrote by DCB DEN. ■ 2400 specifies any tape device (does not override default MODE). ■ 3410 specifies any tape device (does not override default MODE). ■ 3420 specifies any tape device (does not override default MODE). ■ 3424 specifies any tape device (does not override default MODE). ■ 3430 specifies any tape device (does not override default MODE). ■ 3480 specifies a 3480 non-IDRC drive. ■ 3490 specifies a 3490 IDRC drive. ■ 3590 specifies a TPA device If 3592's are desired, DCB=(DEN=M) is also required. ■ 3592 specifies a 3592 TPA device. ■ 8809 specifies any tape device (does not override default MODE). ■ 9348 specifies any tape device (does not override default MODE).

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Subparameter	Definition
cuu	Specifies the drive address to be used. If *cuu* is specified, it must be separated from device-type by a comma and both subparameters must be enclosed in parentheses, for example, UNIT=(CART,3F0).

Examples

In the following example, the UNIT parameter indicates that this is a tape dataset. BIM-EPIC will select a tape drive based on the dataset MODE specification in its catalog entry.

```
* //TAPEOUT  DD  DSN=INVENTRY.FILE,UNIT=TAPE,
* //             DISP=(NEW,CATLG)
```

In the following example, a 3592 tape drive will be selected by BIM-EPIC, and the output volume will be from Tape Pool A.

```
* //TAPEDD DD DSN=PAYROLL.WEEKLY,UNIT=TPA,DCB=(DEN=M),
* //            DISP=(NEW,CATLG),OPTION=(TPL=A)
```


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VOLUME Parameter

Description

For tape datasets, use VOLUME to specify tape rewind options and to select a tape volume to process. These options are especially important for multi-dataset processing.

For disk datasets, use VOLUME to specify a disk pool for allocation and to specify a maximum number of secondary allocations. VOLUME is required for Start Track 1 datasets.

The first four subparameters are positional. The last subparameter, SER or REF, is both keyword and positional. If specified alone, no commas are required. If other subparameters are specified, SER or REF must be the last positional subparameter.

Syntax

The following provides an example of a VOLUME parameter syntax.

```
VOL=(
[ PRIVATE ]|[ ,RETAIN ]|[ ,volume-sequence-number ]|
[ ,secondary-max ]|[,SER=volser]|[,SER=poolname]
|[,REF=*.ddname]
)
```

Subparameters

The following provides a description of the subparameters you can use with the VOLUME parameter.

Subparameter	Required?	Valid	Default
PRIVATE	No		None
RETAIN	No		None
volume-sequence-number	No	1 to 255	1
secondary-max	No	1 to 255	255
SER=*volser*	No	1 to 6 characters	None
SER=*poolname*	For ST1	1 to 6 characters	None
REF=*.*ddname*	No	1 to 7 characters	None

Definitions

The following provides definitions for the subparameters you can use with the VOLUME parameter.

Subparameter	Definition
PRIVATE	Unloads the tape when the dataset is closed. RETAIN overwrites PRIVATE. If PRIVATE is not specified, the tape is rewound when the dataset is closed. PRIVATE is ignored for disk datasets.

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Subparameter	Definition
RETAIN	Prevents tape rewinding when the tape is closed. RETAIN is frequently used when processing multi-datasets. If neither PRIVATE nor RETAIN is specified, the tape is rewound when it is closed. RETAIN is ignored for disk datasets.
volume-sequence-number	Selects the first reel to process in a multi-volume group. The *volume-sequence-number* parameter is ignored for disk datasets.
secondary-max	Specifies the maximum number of secondary allocations which can take place for this disk dataset. The *secondary-max* parameter is ignored for tape datasets.
SER=*volser*	Selects a volume by volume serial number. You can use SER=*volser* to specify a disk volume for uncontrolled disk datasets.

SER=*poolname*	Tells BIM-EPIC to select volume from specified disk pool. It is required for Start Track 1 datasets.
	The following example shows VOL specifying the pool where the Start Track 1 dataset is located.
	`* //DISKIN  DD  DSN=INVENTRY.FILE,SPACE=(CYL,(5,5),RLSE),`
	`* //            DISP=(NEW,KEEP),VOL=SER=POOL01`

REF=*.*ddname*	Associates a subdataset with a prime dataset. Use REF=*.*ddname* with DISP=(NEW,CATLG) when you want to automatically catalog a subdataset. You can also use this subparameter when you want to refer to a prime dataset other than the one specified in the dataset definition. Both the prime dataset and the subdataset must be controlled. In addition, both must be defined with DD statements. The prime dataset's DD statement must precede all DD statements for related subdatasets. Specify the ddname that is on the DD statement of the prime dataset. For example, to refer to a prime dataset defined with the ddname TAPEOUT, specify: `REF=*.TAPEOUT`

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Examples

In the following example, the tape is unloaded at close.

```
* //TAPEIN  DD  DSN=INVENTRY.FILE,
* //            DISP=(NEW,KEEP),VOL=(PRIVATE)
```

The following example shows how to automatically catalog a prime dataset and two new subdatasets. The datasets are stacked on one tape to create a multi-dataset group. PRIME.DSN.1 is the first dataset on the tape, NEWSUB.DSN.2 is the second dataset, and NEWSUB.DSN.3 is the third dataset.

```
* //TAPEDUM  DD  DSN='PRIME.DSN.1(+0)',
* //             OPTION=SYS010,
* //             UNIT=TAPE
* //             DISP=(NEW,CATLG),
* //             FREE=END,
* //             VOL=(,RETAIN)
* //TAPEOUT  DD  DSN='NEWSUB.DSN.2(+0)',
* //             OPTION=SYS010,
* //             UNIT=TAPE,
* //             DISP=(NEW,CATLG),
* //             FREE=END,
* //             VOL=(,RETAIN,,,REF=*.TAPEDUM)
* //TAPEOUT  DD  DSN='NEWSUB.DSN.3(+0)',
* //             OPTION=SYS010,
* //             UNIT=TAPE,
* //             DISP=(NEW,CATLG),
* //             VOL=(PRIVATE,,,,REF=*.TAPEDUM)
// EXEC PROGX
```

In the example, VOL=REF=*subparameter* passes the name of the prime dataset to BIM-EPIC. VOL=(,RETAIN,,,REF=*.TAPEDUM) specifies that both of the following are true:

- This dataset is a subdataset and part of a multi-dataset group.
- The prime dataset associated with this subdataset is PRIME.DSN.1.

VOL=(PRIVATE,,,,REF=*.TAPEDUM) indicates the same process and causes the tape to unloaded when the dataset is closed.

See Chapter 7, “Multi-Dataset Processing,” for additional information pertaining to prime datasets and subdatasets.

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DD Statements For Printer and Punch Datasets

Description

DD statements used to assign printer and punch datasets.

Syntax

The following provides an example of a print command syntax.

```
* //ddname  DD  SYSOUT=x[,OPTION=SYSnnn]
```

Parameters

The following parameters are valid for printer and punch datasets.

Parameter	Required?	Valid	Default
ddname	Yes		None
DD	Yes		None
SYSOUT=*x*	Yes	A to Z or 0 to 9	None
OPTION	No		None
SYS*nnn*	No	SYS000 to SYS254	None

Definitions

The following provides definitions for the parameters valid for printer datasets and punch datasets.

Parameter	Definition
ddname	Specifies the logical name for the dataset and performs the same function as the DTF filename. The *ddname* must begin in column 5.
DD	Identifies this as a DD JCL statement. At least one blank is required immediately before and immediately after DD operation code. Do not use the DD operation code in continuation statements.
SYSOUT	Specifies the class used for printer and punch data. For punch data, specify B. For print data, specify any other valid character.

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Parameter	Definition

SYS*nnn*	Specifies the programmer logical unit. Use SYS*nnn* if the ddname itself is not a logical unit specification. For example, if your COBOL program includes the statement:
	`SELECT PRINT-OUT ASSIGN SYS006-UR-1403-S-PRINT.`
	then the DD statement would be:
	`* //PRINT DD SYSOUT=A,OPTION=SYS006`
	If no COBOL external name is used, do not use OPTION, since the ddname is a logical unit specification. For example, if your COBOL program includes the statement:
	`SELECT PRINT-OUT ASSIGN SYS006-UR-1403-S.`
	then the DD statement would be:
	`* //SYS006 DD SYSOUT=A`

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DD Statements for In-Stream Datasets

Description

Use a DD statement to assign a logical unit to the data stream, when a job stream contains in-stream data. VSE requires the in-stream data be placed after the EXEC statement.

Syntax

The following provides an example of an in-stream dataset syntax.

```
* //ddname  DD  specifier[,OPTION=SYSnnn]
```

Parameters

The following parameters are valid for in-stream datasets.

Parameter	Required?	Valid	Default
ddname	Yes		None
DD	Yes		None
specifier	Yes	* or DATA	None
OPTION	No		None
SYS*nnn*	No	SYS000 to SYS254	None

Definitions

The following provides definitions for the parameters.

Parameter	Definition
ddname	Specifies the logical name for the dataset and performs the same function as the DTF filename. The *ddname* must begin in column 5.
DD	Identifies this as a DD JCL statement. At least one blank is required immediately before and immediately after DD operation code. Do not use the DD operation code in continuation statements.
specifier	Specifies that this statement defines an instream dataset. Valid values are DATA or *.

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Parameter	Definition

SYS*nnn*	Specifies a programmer logical unit. Use SYS*nnn* if the ddname itself is not a logical unit specification. For example, if your COBOL program includes the following statement:
	`SELECT CARD-IN ASSIGN SYS005-UR-2540R-S-CARDIN.`
	then the DD statement would be:
	`* //CARDIN  DD  *,OPTION=SYS005`
	or
	`* //CARDIN  DD  DATA,OPTION=SYS005`
	If no COBOL external name is used, do not use OPTION, since the ddname is itself a logical unit specification. For example, if your COBOL program includes the following statement:
	`SELECT CARD-IN ASSIGN SYS005-UR-2540R-S.`
	then the DD statement would be:
	`* //SYS005  DD  *`
	or
	`* //SYS005  DD  DATA`

Example

In the following example, the AJS00987 statement is read as in-stream data using SYS005. Because the ddname is itself a logical unit specification, no OPTION statement is necessary.

```
* //SYS005  DD  *
// EXEC PGM
AJS00987
/*
```

In the following example, LOG JE0987 and SP 9876 are read as in-stream data using logical unit SYS005.

```
* //CARDIN  DD  DATA,OPTION=SYS005
// EXEC PGM
LOG JE0987
SP 9876
/*
```


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DD Statements for Dummy Datasets

Description

Dataset definition (DD) statements can define dummy datasets.

Syntax

The following provides an example of a dummy dataset syntax.

```
* //ddname  DD  DUMMY[,OPTION=SYSnnn]
```

Parameters

The following parameters are valid for dummy datasets.

Parameter	Required?	Valid	Default
ddname	Yes		None
DD	Yes		None
DUMMY	Yes		None
OPTION	No		None
SYS*nnn*	No	SYS000 to SYS254	None

Definitions

The following provides definitions for the parameters you can use with CATALOG.

Parameter	Definition
ddname	Specifies the logical name for the dataset and performs the same function as the DTF filename. The *ddname* must begin in column 5.
DD	Identifies this as a DD JCL statement. At least one blank is required immediately before and immediately after DD operation code. Do not use the DD operation code in continuation statements.
DUMMY	Specifies that this is a dummy dataset.
SYS*nnn*	Specifies a programmer logical unit. Use SYS*nnn* if the ddname is not a logical unit specification.

Example

The following example defines the dataset name SYS005 as a dummy dataset. The result is equivalent to a VSE // ASSGN SYS005,IGN. Input and output to the dataset are ignored.

```
* //SYS005  DD  DUMMY
```


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Running Jobs With BIM-EPIC

BIM-EPIC is designed to work with your existing JCL. However, on occasion, JCL changes are necessary. Some situations require special entries in the BIM-EPIC dataset definition (EDD). This chapter discusses how to use BIM-EPIC and JCL with products from IBM and other third-party vendors. Recommendations for JCL and EDDs are presented for each topic when relevant. Refer to the $INDEXSAMPJOB VSE sub-library member as reference to the many job samples provided on the BIM-EPIC installation tape.The member is in the same sub-library that BIM-EPIC was installed into. Familiarity with the TLBL statement and DLBL statement and BIM-EPIC dataset definition statements is assumed.

Chapter Contents

Dataset Considerations
Disk Processing
Tape Processing
Types of Datasets
Sort Programs
Additional Functionality
JCL Functions

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Dataset Considerations

Using Unsupported Datasets

Description

BIM-EPIC does not control datasets that are defined in the JCL with the following DTF names:

- IJSYSNR
- IJSYSPC
- IJSYSRS

In addition, BIM-EPIC does not control datasets processed with the following system utilities:

- DITTO basic and control functions

Note:
BIM-EPIC can control DITTO file functions.

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Using JCL and the DSN Catalog

Description

For tape output datasets, JCL parameters always override corresponding DSN Catalog information.

For DASD output datasets, except for “retention period,” the only item in the catalog entry that can be overridden is the “number of tracks to be allocated.” This is taken from the // EXTENT following the appropriate // DLBL statement. That DLBL statement must have the BIM-EPIC option code “O” specified. See Chapter 5, “DLBL Options,” for additional information.

For Tape or DASD output datasets, if a *greater than zero* retention value is specified, the value will override the DSN retention value in the catalog. The BIM-EPIC option code O is not required for this catalog override.

For input datasets, tape, or DASD, the DSN Catalog values override any corresponding JCL parameters, except for:

- Density (TLBL)
- Block size or CISIZE (DLBL or DD DCB parameter)
- Retention (days)
- Expiration date

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Using TLBL and DLBL Statements for Input

Description

When you use TLBL and DLBL statements for input, BIM-EPIC selects the current version by default.

When you use DD statements for input, the entire dataset is concatenated if you do not specify a version number. In this case, all versions of the dataset are read, beginning with the current version and ending with the oldest version.

You can use JCL to override these defaults by requesting a specific version or generation. See Chapter 5, “TLBL Statements,” and Chapter 6, “DD Statement Overview,” for additional information.

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Defining Datasets with TBL, DBL and DD Statements

Description

For every controlled dataset that it processes, BIM-EPIC uses the information in the DSN Catalog entry to update the VSE label area when the dataset is opened. Because this information is recorded automatically, the JCL can be very concise. Using the DSN Catalog instead of JCL can be simpler, less error-prone, and easier to change.

In most circumstances, all you need to specify for an input dataset is the DTF name or the ddname and the dataset name that are used by the program.

Examples

The following are examples of defining your datasets with TBL, DBL, and DD statements.

```
// DLBL DISKOUT,'WEEKLY.PAYROLL'
// TLBL TAPEOUT,'SYSTEM.BACKUP'
* //TAPEOUT   DD   DSN=SYSTEM.BACKUP
```

When defining DD statements for output datasets, you may also need to specify a device type.

```
* //DISKOUT   DD   DSN'
```


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Naming Datasets

Description

See “Multi-Dataset Processing” for guidelines on naming datasets.

For generation datasets, specify the dataset name as it appears in the EDD. BIM-EPIC inserts this extension and uses it in its internal processing.

Note:
For disk datasets, do not specify the G=*nnnnnn* extension that appears in the VTOC.

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Using LUB Allocation and the ASSGN Statement

Using ASSGN Statements

When using LUB allocation and Automatic Volume Recognition (AVR), BIM-EPIC does the work of an ASSGN statement. LUB allocation selects the SYS number and AVR selects the drive. As long as LUB allocation is active, ASSGN statements are not necessary and should be removed from your JCL. However, ASSGN statements must be used whenever LUB allocation is inhibited. When LUB allocation is inhibited, you should use the drive specified in the ASSGN statement.

LUB allocation is automatically inhibited:

- For direct access datasets
- If the logical unit number is currently assigned IGNORE
- For system logical units
- If the logical unit is assigned in the DSN Catalog entry for a dataset

In addition, LUB allocation is automatically inhibited for DTF names:

- UIN
- UOUT
- IJSYS*xx*
- SYS000
- SORT*xxx* (unless TSIDSRT is executed in place of SORT)

You can add other DTF names to this list by specifying the names in the BIM-EPIC TSIDMAP macro. See the *BIM-EPIC Installation and System Guide* for additional information.

You must inhibit LUB allocation for datasets opened by TSIDASS and datasets processed by PIOCS. This includes datasets processed with many utility programs and any dataset opened with a DTFPH. In most data processing environments, there are not many programs that can perform these functions. In most circumstances, the TSIDASS utility can replace the use of a VSE ASSGN statement.

Uncontrolled tape datasets do not need ASSGN statements. BIM-EPIC will request the operator to specify a tape drive address.

Inhibiting LUB Allocation

You can inhibit LUB allocation for a dataset using any of the following:

- Option L in the dataset name on a DLBL

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- Option 64 in the numeric options on a TLBL
- OPTION=SYS*nnn* parameter on a DD statement
- A default SYS number in the BIM-EPIC dataset definition

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Disk Processing

Controlled Datasets

EXTENT Statements

For most controlled datasets, the EXTENT statement is not used. An EXTENT statement can be required when you process direct access (DA) datasets or any datasets with programs that use PIOCS processing. See “Physical IOCS Processing” for additional information.

If you want to use a different allocation than the one specified in the EDD, use the DLBL statement with option O in the dataset name and use the EXTENT statement as you would for VSE. All EXTENT parameters except the number of tracks/blocks on the EXTENT are ignored.

Example

The following example creates a dataset with a primary extent size of 210 tracks, overriding the primary extent size in the EDD. Except for the “number of tracks” specification (210), all items in the EXTENT are ignored by BIM-EPIC.

```
// DLBL DISKIN,'$$$.WORKFILE.1,(O)'
// EXTENT SYS004,SYSWK1,1,0,5,210
```


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Start Track 1 Datasets

Description

To define a Start Track 1 dataset, you must specify allocation information with an EXTENT statement.

DLBL Statements

The EXTENT statement for a Start Track 1 dataset differs slightly from the standard VSE EXTENT statement. To use a Start Track 1 EXTENT, do the following:

- Specify a BIM-EPIC disk pool instead of a volume serial number
- Specify a relative starting track/block of 1

Example

A Start Track 1 dataset is allocated in POOL01 with 20 tracks.

```
// EXTENT SYS003,POOL01,1,0,1,20
```

If you specify a Start Track 1 EXTENT for a controlled dataset, BIM-EPIC ignores the EXTENT information. Start Track 1 allocations can also be specified in DD statements.

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Reusing Space

DSN Catalog

If you want to write a new version of a disk dataset in the same location in order to reuse the space, catalog the dataset as work and zero secondary allocations. For example, you can indicate WRK using Online Manager or WRK=YES using TSIDMNT.

JCL Requirements

Each time the dataset is created or modified, consider inhibiting truncation. This leaves space in the extent for a larger dataset the next time the dataset is processed. To inhibit truncation with a DLBL, specify option N in the dataset name. To inhibit truncation with a DD statement, use the SPACE parameter, but do not specify RLSE.

Each time the dataset is modified, you must indicate that you want to reuse the same space. To reuse space with a DLBL, specify option S in the dataset name. To inhibit truncation with a DD statement, specify DISP=(MOD,KEEP).

Examples

The following is an example of a job statement for reusing space.

```
// DLBL OUTPUT,'DATA.FILE,(N,S)'
* //OUTPUT  DD  DSN=DATA.FILE,UNIT=DISK,
* //            DISP=(MOD,KEEP),SPACE=(TRK,0)
```


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Tape Processing

Labeled and Unlabeled Tapes

Description

BIM-EPIC supports both labeled and unlabeled tape processing. BIM-EPIC automatically changes the DTF for an unlabeled tape (FILABL=NO or LABEL RECORDS OMITTED) to a DTF for a labeled tape (FILABL=STD or LABEL RECORDS STANDARD) when you supply a TLBL with the DTF name. This enables you to convert to labeled processing without making program changes. BIM-EPIC does not affect user header label processing.

DSN Catalog

To indicate standard label processing, specify LBL=YES on the TSIDMNT CATALOG statement or UNLABELED=N in the Online Manager panel. To indicate unlabeled processing, specify LBL=NO on the TSIDMNT CATALOG statement or UNLABELED=Y in the Online Manager panel.

JCL Requirements

When processing a BIM-EPIC controlled dataset on an unlabeled tape, a TLBL or a DD statement for the dataset must be present. A label is not written on the tape volume, but the BIM-EPIC Catalog requires a dataset name for control purposes. Standard VSE processing does not require a TLBL for unlabeled tape datasets.

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Rewind Options and MTC Statements

Description

You do not need to use MTC statements to rewind or FSF your tapes. BIM-EPIC will position the tape automatically for input or output processing. You can also use the BIM-EPIC rewind options for output or input processing to override equivalent options in your program.

For additional information on tape rewind options, see the following topics:

- Chapter 5, “TLBL Options”
- Chapter 6, “OPTION Parameter”
- Chapter 6, “VOLUME Parameter”

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Multi-Volume Processing

Description

Multi-volume processing can be used to process up to 255 volumes per tape dataset version and up to 255 extents per disk dataset version.

JCL Requirements

There are no JCL requirements. BIM-EPIC automatically performs multi-volume processing.

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Multi-Dataset Processing

Description

This section explains the concept of multi-dataset groups and describes their processing requirements and options.

A multi-dataset group consists of a prime dataset and up to 9,998 subdatasets. A multi-dataset group can reside on a single tape volume or on multiple tape volumes. BIM-EPIC will automatically handle tape positioning for both input and output processing.

WARNING:
All datasets participating in a multi-dataset group MUST conform to a standard dataset format defined by the Logical Input Output Control System (LIOCS).

The standard dataset format consists of three components for each dataset:

- Header label set, followed by a tape mark
- Data, followed by a tape mark
- Trailer label set, followed by at least one tape mark (the last dataset on a volume will be followed by two tape marks.

Almost all programming languages and utility programs create datasets which conform to this standard format.

WARNING:
Do not use the BIM-EPIC multi-dataset capability for VSE LIBR and IDCAMS BACKUP commands.

The LIBR BACKUP command and the IDCAMS BACKUP command create datasets which do not conform to the standard data format. They insert additional tape marks in the output data, thereby making it impossible for BIM-EPIC to properly position a volume to any subsequent subdataset.

Prime Datasets

The first dataset on the first reel of a multi-dataset group is called the prime dataset. The prime dataset *owns* all the volumes in the group and controls their physical attributes.

All datasets that follow the prime dataset in the group are called subdatasets. When defined, these subdatasets must be associated with the prime dataset. BIM-EPIC supports two methods of establishing this association:

- Automatically (using the DSN Catalog)

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- Explicitly (using JCL)

If the datasets are associated using TLBL statements, the length of the prime dataset name is limited to 17 characters. However, the subdataset names can be a maximum of 44 characters. This type of association is made by specifying the prime dataset name when the subdataset names are defined to the catalog.

If the datasets are associated using DD statements, the length of the prime dataset name can be up to 44 characters. This type of association is made by having the subdataset reference the prime dataset name on the DD statement. Therefore, the DD statement for the prime dataset name is also required to be in the same JCL stream as the subdataset that is being created. This method allows the additional flexibility of associating the same subdatasets with different prime datasets, depending on job requirements.

Subdatasets

Each subdataset has its own EDD, but some subdataset attributes cannot be specified because they are always inherited from the prime dataset. These attributes are:

- Density
- Tape labeling
- Tape size
- Tape pool
- Owner ID
- Vaulting method

Scratching Multi-Dataset Tapes

Multi-dataset tape volumes are scratched when all active datasets on the volume are scratched. None of the volumes in a multi-dataset/multi-volume group is eligible for scratch until all active datasets on all active volumes have been scratched.

DSN Catalog

If you want to write a group to a particular tape pool with a particular density or you want to specify any other physical property or handling of the tape, you must specify the parameters in the prime definition. Applicable parameters on the TSIDMNT CATALOG or Online Manager statement include:

- Density (MOD)
- Label type (LBL)
- Owner ID (OWN)

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- Tape size (SIZ)
- Vaulting method (VLT)
- Tape pool (TPL)

Several important limitations apply when creating a subdataset EDD. These limitations are:

- You must catalog the subdatasets using Online Manager or TSIDMNT, or autocatalog them using DD statements. You cannot use TLBL statements to autocatalog subdatasets.
- You must enter the prime dataset name correctly when a subdataset is defined to the catalog. The prime dataset name cannot be changed later. You can supply independent retention criteria, passwords, and block sizes for each subdataset.
- You may find it helpful to give all the datasets in each multi-dataset group a single, unique user ID or system ID. This makes it easier to report or scratch the datasets as a group, rather than as individual datasets.

JCL Requirements

There are several JCL requirements you must consider.

- You must inhibit LUB allocation for all datasets using either option 64 in a TLBL statement or option SYS*nnn* in a DD statement.
- You must inhibit LUB allocation through the DSN Catalog, if you are creating subdatasets with a single program that opens multiple DTFs with different logical units. To force BIM-EPIC to use the same logical unit for each dataset, specify the same SYS number in each EDD.
- You can use a VSE // ASSGN statement to assign the SYS number from the previous step to the SYS number in the current step, if you are creating subdatasets with different programs using DTFs with different logical units. This may be necessary when using different utility programs to create subdatasets when the utilities require different SYS numbers to be used.
- BIM-EPIC corrects the file sequence number on your TLBL if it is incorrect. You may omit the file sequence number.
- You must specify TLBL option 16 (dataset drop), if your program uses multiple open requests for the same DTF name. Dataset drop is automatic when you use multiple DD statements with the same ddname.

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- You must prevent the tape from being rewound for all datasets except the last. This can be accomplished with any of the following methods:
  - Option 3 in a TLBL statement
  - VOL=(,RETAIN) in a DD statement
  - OPT=NOREW in a DD statement
- You may want to specify a rewind or unload option code for the last dataset. This can be accomplished by any of the following methods:
  - Option 1 (rewind) in a TLBL statement
  - FREE=CLOSE (rewind) in a DD statement
  - Option “2” (unload) in a TLBL statement or
  - VOL=(PRIVATE) (unload) in a DD statement
- You can prevent the release of the assignment for each dataset except the last. This can be accomplished with either of the following methods:
  - Option 8 in a TLBL statement
  - FREE=END in a DD statement
- You usually want the assignment to be released at close for the last dataset. This can be accomplished by omitting the option code (TLBL) or FREE=END (DD).
- On output, BIM-EPIC continues to write new datasets at the end of the current multi-dataset group. When you want to create a new group, you must start by creating a new version of the prime dataset.
- You can process the datasets in any order on input. Because of the physical limitations of tape media, it is most efficient to process the datasets in ascending order by file sequence, but this is not mandatory.
- You must use DD statements to automatically catalog a subdataset.

WARNING:
If the length of the prime dataset name is 17 characters or less, BIM-EPIC enters the prime dataset name in the Comment field of the subdataset definition. If the prime dataset name in the comment field is longer than 17 characters, BIM-EPIC puts XXXXXXXXXXXXXXXXX in the Comment field for the subdataset.

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Be sure the dataset is not already controlled before you attempt to catalog it using this method. If the prime dataset or any subdataset is already controlled, DISP=(*x*,CATLG) is ignored.

Example 1

The following example is one of the easiest situations for creating a multi-dataset group. The program creates datasets with different DTF names, but each DTF uses the same logical unit. The datasets are defined in the first step and are created in the second step. The second dataset on the tape is read in the third step. In the cataloging step, the prime dataset is defined first. It is given a tape pool which applies to all associated subdatasets. All other datasets are defined with the NSU parameter, which makes them subdatasets. SUB1 and SUB2 have their own retention parameters specified. SUB3 is assigned the BIM-EPIC system default retention. All datasets are defined with the user ID value of TS, so they can be easily identified as a group. The last dataset does not require the tape and drive to be held, nor does it require a dataset drop.

```
// JOB XYZ
*
*
-------------------------------------------------------------+
*  CATALOG A PRIME DSN AND THREE SUB DSN'S                    +
*
-------------------------------------------------------------+
*
// EXEC TSIDMNT
 CAT 'PRIME' CYC=2 UID=TS TPL=A
 CAT 'SUB1' NSU='PRIME' RET=14 UID=TS
 CAT 'SUB2' NSU='PRIME' CYC=3 UID=TS
 CAT 'SUB3' NSU='PRIME' UID=TS
/*
*
*
-------------------------------------------------------------+
*  CREATE A PRIME AND 3 SUB DSN'S.  PROGX PERFORMS 4 OPENS,  +
*  ONE EACH FOR TAPE1, TAPE2, TAPE3 AND TAPE4.               +
*
-------------------------------------------------------------+
*
// TLBL TAPE1,'PRIME',,,,,,75          64 + 8 + 3
// TLBL TAPE2,'SUB1',,,,,,75           64 + 8 + 3
// TLBL TAPE3,'SUB2',,,,,,75           64 + 8 + 3
// TLBL TAPE4,'SUB3',,,,,,65           64 + 1
// EXEC PROGX
/*
*
*
-------------------------------------------------------------+
*  READ FILE=2 ONLY                                           +
*
-------------------------------------------------------------+
*
// TLBL TAPEIN,'SUB1'
// EXEC PROGY
/*
/&
```


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The following describes the options used in the example above.

Code	Action
1	Rewinds the tape (for the last dataset)
3	Inhibits rewind at close (for all but the last dataset)
8	Holds the drive assignment at close (for all but the last dataset)
64	Inhibits LUB allocation (for all datasets)

Example 2

The following example creates multiple datasets with the same DTF name. This process requires a dataset drop.

```
// JOB XYZ
*
* ------------------------------------------------+
*  CATALOG A PRIME AND 2 SUB DSN'S                +
* ------------------------------------------------+
*
// EXEC TSIDMNT
 CAT 'PRIME' CYC=3 UID=KM
 CAT 'SUB1' NSU='PRIME' UID=KM CYC=4
 CAT 'SUB2' NSU='PRIME' UID=KM RET=14
/*
*
* ------------------------------------------------+
*  CREATE A PRIME AND 2 SUB DSN'S.  PROGX PERFORMS+
*  3 OPENS FOR THE DTFNAME TAPEOUT.               +
* ------------------------------------------------+
*
// TLBL TAPEOUT,'PRIME',,,,,,91        64 + 16 + 8 + 3
// TLBL TAPEOUT,'SUB1',,,,,,91         64 + 16 + 8 + 3
// TLBL TAPEOUT,'SUB2',,,,,,66         64 + 2
// EXEC PROGX
/*
*
* ------------------------------------------------+
*  READ A PRIME AND 2 SUB DSN'S.  PROGY PERFORMS  +
*  3 OPENS FOR THE DTFNAME TAPEOUT.               +
* ------------------------------------------------+
*
// TLBL TAPEIN,'PRIME',,,,,,91        64 + 16 + 8 + 3
// TLBL TAPEIN,'SUB1',,,,,,91         64 + 16 + 8 + 3
// TLBL TAPEIN,'SUB2',,,,,,66         64 + 2
// EXEC PROGY
/*
*
/&
```

The following describes the options used in the example above.

Code	Action
1	Rewinds the tape (for the last dataset)
2	Dismounts the tape (for the last dataset)
3	Inhibits rewind at close (for all but the last dataset)
8	Holds the drive assignment at close (for all but the last dataset)
16	Drops the TLBL from the VSE label area (for all but the last dataset)
64	Inhibits LUB allocation (for all datasets)

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The last dataset does not require the tape and drive to be held, nor does it require a dataset drop.

Example 3

The following example creates multiple datasets with different DTF names. Because different DTFs use different logical units, a logical unit must be supplied in the dataset definitions.

```
// JOB XYZ
*
*
------------------------------------------------------------+
*  CATALOG A PRIME AND 2 SUB DSN'S                          +
*
------------------------------------------------------------+
*
// EXEC TSIDMNT
 CAT 'PRIME' SYS010
 CAT 'SUB1' NSU='PRIME' SYS010
 CAT 'SUB2' NSU='PRIME' SYS010
/*
*
*
------------------------------------------------------------+
*  CREATE A PRIME AND 2 SUB DSN'S.  PROGX PERFORMS 3 OPENS, +
*  ONE EACH FOR TAPE1, TAPE2 AND TAPE3.                     +
*
------------------------------------------------------------+
*
// TLBL TAPE1,'PRIME',,,,,,11          8 + 3
// TLBL TAPE2,'SUB1',,,,,,11           8 + 3
// TLBL TAPE3,'SUB2',,,,,,2            2
// EXEC PROGX
/*
*
/&
```

The following describes the options used in the example above.

Code	Action
2	Dismounts the tape (for the last dataset)
3	Inhibits rewind at close (for all but the last dataset)
8	Holds the drive assignment at close (for all but the last dataset)

Because LUB allocation is inhibited through the dataset definition, 64 does not need to be specified on the TLBL.

Note:
LUB allocation is inhibited as the result of SYS010 being specified in the prime dataset definitions and the subdataset definitions.

Example 4

The following example is similar to Example 2. Although, it may seem more complicated, the BIM-EPIC DD facility offers greater flexibility than TLBLs.

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```
// JOB XYZ
* ------------------------------------------------------+
*  CATALOG A PRIME DSN AND THREE SUB DSN'S              +
* ------------------------------------------------------+
*
// EXEC TSIDMNT
 CAT 'PRIME'            CYC=2
 CAT 'SUB1' NSU='PRIME' CYC=2
 CAT 'SUB2' NSU='PRIME' CYC=2
/*
*
*
------------------------------------------------------------
+
*  CREATE A PRIME AND 2 SUB DSN'S USING BIM-EPIC DD FACILITY.
+
*  PROGX PERFORMS 3 OPENS FOR DTFNAME TAPEOUT.
+
*
------------------------------------------------------------
+
*
* //TAPEOUT  DD  DSN='PRIME(+0)',
* //              OPTION=(SYS010),
* //              UNIT=TAPE,
* //              FREE=END,
* //              DISP=(NEW,KEEP),
* //              VOL=(,RETAIN)
* //TAPEOUT  DD  DSN='SUB1(+0)',
* //              OPTION=(SYS010),
* //              UNIT=TAPE,
* //              FREE=END,
* //              DISP=(NEW,KEEP),
* //              VOL=(,RETAIN)
* //TAPEOUT  DD  DSN='SUB2(+0)',
* //              OPTION=(SYS010),
* //              UNIT=TAPE,
* //              DISP=(NEW,KEEP),
* //              VOL=(PRIVATE)
// EXEC PROGX
/*
*
------------------------------------------------------------+
*  READ A PRIME AND 2 SUB DSN'S USING BIM-EPIC DD FACILITY. +
*  PROGY PERFORMS 3 OPENS FOR DTFNAME TAPEIN.               +
*
------------------------------------------------------------+
* //TAPEIN  DD  DSN='PRIME(0)',
* //              OPTION=(SYS010),
* //              UNIT=TAPE,
* //              FREE=END,
* //              DISP=(OLD,PASS),
* //              VOL=(,RETAIN)
* //TAPEIN  DD  DSN='SUB1(0)',
* //              OPTION=(SYS010),
* //              UNIT=TAPE,
* //              FREE=END,
* //              DISP=(OLD,PASS),
* //              VOL=(,RETAIN)
* //TAPEIN  DD  DSN='SUB2(0)',
* //              OPTION=(SYS010),
* //              UNIT=TAPE,
* //              DISP=(OLD,KEEP)
// EXEC PROGY
/*
/&
```


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The following describes the options used in the examples above.

Option	Action
DSN='*xxxx*(+0)'	Sets the generation dataset. Use (+0) in parentheses to indicate that this is a generation dataset. See the *BIM-EPIC Installation and System Guide* for additional information.
OPTION=(SYS010)	Inhibits LUB allocation for this dataset. This is equivalent to TLBL option code 64. In addition, this forces the use of SYS010, which has no TLBL equivalent.
UNIT=TAPE	Tells BIM-EPIC to use a tape for the data. This would be determined in standard VSE JCL by using a TLBL.
FREE=END	Holds the assignment at close for all but the last dataset processed. This is equivalent to TLBL option code 8.
DISP=(NEW,KEEP)	Sets two parameters. The NEW subparameter indicates that this dataset version will be created as output. The KEEP subparameter causes the tape to be unloaded at close unless VOL=(,RETAIN).
VOL=(,RETAIN)	Inhibits rewinding the tape at close and overrides the DISP subparameter KEEP. This is equivalent to TLBL option code 3.
VOL=(PRIVATE)	Causes the tape to be unloaded at close. This is equivalent to TLBL option code 2.

Additional options used in the read step are:

Option	Action
DSN='*xxxx*(0)'	The zero (0) in parentheses indicates that the current version, version 1, is to be processed.
DISP=(OLD,PASS)	The OLD subparameter indicates that this dataset version already exists and will be read as input. The PASS subparameter indicates that this tape is used later in the step or in a subsequent step of this job.

Example 5

Whenever a subdataset such as VERY.LONG.NAME.FOR.NEWSUB.3 is accessed, the prime dataset name must be referenced in the JCL. The following example shows how VERY.LONG.NAME.FOR.NEWSUB.3 can be read as input.

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```
// JOB XYZ
*
*
*  READ VERY.LONG.NAME.FOR.NEWSUB.3 AS INPUT.  THE PRIME
DATASET +
*  NAME (VERY.LONG.NAME.FOR.PRIME.1) MUST BE SPECIFIED AND
+
*  REFERRED TO BY THE DD FOR THE SUBDATSET.  PROGY+
*  PERFORMS 1 OPEN FOR DTFNAME TAPEIN.
*
*
* //DUMMY    DD  DSN='VERY.LONG.NAME.FOR.PRIME.1(0)',
* //             UNIT=TAPE
* //TAPEIN  DD  DSN='VERY.LONG.NAME.FOR.NEWSUB.3(0)',
* //             UNIT=TAPE,
* //             DISP=(OLD),
* //             VOL=REF=*.DUMMY
// EXEC PROGY
/*
/&
```

Note:
The use of the DTF name DUMMY in DD statements is also known as the ddname. You can use any ddname except TAPEIN because PROGY performs an open for TAPEIN, not DUMMY.

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Types of Datasets

Sequential Datasets

Description

For disk, allocation is on track boundaries for CKD devices. If you specify DLBL option code A or SPACE=(...,ROUND) on a DD statement, BIM-EPIC makes the allocation on cylinder boundaries.

Otherwise, there are no special requirements for sequential dataset processing.

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Direct Access Datasets

Description

When using direct access datasets:

- LUB allocation is inhibited automatically.
- Allocation is on cylinder boundaries and datasets are not truncated.
- Secondary extents are not supported for controlled datasets.

When using *uncontrolled* direct access datasets with the configuration option UNCDSK:

- There is no limit to the number of extents when UNCDSK=NO.
- There is a limit of 5 extents when UNCDSK=YES.

DSN Catalog

There are no special EDD requirements.

JCL Requirements

The VSE job control program requires you to use a DLBL and a complete EXTENT statement. For BIM-EPIC purposes, however, only the file type (access method DA) on the DLBL and the extent sequence numbers on the EXTENT statement must be correct. For both cataloged and Start Track 1 datasets, the extent sequence numbers must begin with one (1). VSE also requires that secondary extents reside on separate volumes.

Examples

The following example shows the EXTENT statement for a controlled dataset. BIM-EPIC supplies the volume serial number, starting address, and number of tracks/blocks from information in the catalog.

```
// DLBL RESDA,'dataset.name',,DA
// EXTENT SYS020,,1,1
```

The following example shows the EXTENT statement for a Start Track 1 dataset. BIM-EPIC supplies the actual volume serial number and starting address.

```
// DLBL RESDA,'dataset.name',,DA
// EXTENT SYS020,POOL01,1,1,1,15
```

On BIM-EPIC DD statements, specify DCB=DSORG=DA or DCB=DSORG=DAU. This example could be used to read or update a controlled DA dataset.

```
* //RESDA  DD  DSN=INVOICE.TICKETS,DISP=(OLD,KEEP),
* //           DCB=DSORG=DA
```


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ISAM Datasets

Description

BIM-EPIC can control ISAM datasets. The following MVT restrictions affect BIM-EPIC ISAM dataset processing.

Note:
VSE no longer supports ISAM. The following restrictions apply only to MVT and MVT/VSE.

- BIM-EPIC can control only one prime data area, one overflow area, and one index per ISAM dataset.
- ISAM datasets are automatically allocated on cylinder boundaries.
- If UNCDSK=YES is specified as a configuration option or if you specify DLBL options in your JCL, uncontrolled ISAM datasets are limited to a maximum of 5 extents total.

DSN Catalog

There are no special requirements for the catalog entry. The extent size specified in the catalog refers to the prime data area. Multiple extents are not allowed. Extent information for the index and overflow are taken from the JCL. The disk pool applies to all prime data, index, and overflow areas.

JCL Requirements

EXTENT statements are always required for the prime data, index, and overflow areas.

For catalog controlled datasets, the number of tracks to allocate for the prime area is taken from the catalog, unless you specify the DLBL, option code O. The number of tracks to allocate for index and overflow areas must be specified on the appropriate extent statement, as shown in the following examples:

```
// DLBL MASTER,'EPIC.ISAM.MASTER.FILE',,ISE
// EXTENT SYS040,,4,1        Index
// EXTENT SYS041,,1,2        Prime
// EXTENT SYS042,,2,4        Overflow

// DLBL MASTER, 'EPIC.ISAM.MASTER.FILE',,ISC
// EXTENT SYS040,,4,1,,15      Index
// EXTENT SYS041,,1,2          Prime
// EXTENT SYS042,,2,4,,30      Overflow
```


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For Start Track 1, the SYS number for the overflow extent must be different from the SYS number for the index and prime data areas, as shown in the following example:

```
// DLBL MASTER,'EPIC.ISAM.MASTER.FILE',,ISE
// EXTENT SYSO4O,POOL80,4,1,1,15    Index
// EXTENT SYS041,POOL80,1,2,1,90    Prime
// EXTENT SYSO42,POOL80,2,3,1,30    Overflow
```

For each DD statements, specify DCB=DSORG=IS or DCB=DSORG=ISU.

The three areas of an ISAM dataset, prime, index, and overflow, are all defined as part of the same DD statement. However, the overflow area must be defined using its own parameters, for example DSN, DCB, DISP, SPACE, and VOL. You can define the prime and index areas independently or together using one set of parameters.

Examples

The following example shows each area with its own set of parameters. Space and other information about the area follow the DSN parameter identifying the area. Because the index area space is defined separately, the space is defined with the primary-qty subparameter, SPACE=(TRK,1) and not the index-qty, SPACE=(TRK(,,1)).

```
* //DATA    DD  DSN=CUSTOMER.MASTER(PRIME),
* //            DISP=(NEW,KEEP)
* //            UNIT=DISK
* //            DCB=DSORG=IS,
* //            SPACE=(TRK,45)
* //            VOL=SER=POOL01
* //      DD    DSN=CUSTOMER.MASTER(INDEX),
* //            DISP=(NEW,KEEP)
* //            UNIT=DISK,
* //            DCB=DSORG=IS,
* //            SPACE=(TRK,1)
* //            VOL=SER=POOL01
* //      DD    DSN=CUSTOMER.MASTER(OVFLOW),
* //            DISP=(NEW,KEEP)
* //            UNIT=DISK,
* //            DCB=DSORG=IS,
* //            SPACE=(TRK,15)
* //            VOL=SER=POOL01
```

The following example shows one set of parameters used to define both the prime area and the index area. In this case, SPACE is defined for the index area by using the index-qty subparameter.

```
* //DATA  DD  DSN=CUSTOMER.MASTER,
* //            DISP=(NEW,KEEP),
* //            UNIT=DISK,
* //            DCB=DSORG=IS,
* //            SPACE=(TRK,(45,,1)),
* //            VOL=SER=POOL01
```


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VSAM and VSAM-Managed SAM Datasets

Description

BIM-EPIC does not control VSAM or VSAM-managed SAM datasets. Therefore, no changes are required in your JCL. However, you can use DD statements to access an existing VSAM cluster or VSAM-managed SAM dataset. See your IBM documentation for additional information.

You can have the VSAM dataset location and activity recorded in the DSN Catalog. If you catalog the VSAM cluster using Online Manager or TSIDMNT, the catalog information appears on the BIM-EPIC reports and displays, similar to non-VSAM datasets. At close, BIM-EPIC logs the allocations used for any suballocated or unique VSAM clusters.

Configuration Options

The VSAM configuration option enables logging of VSAM datasets.

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Common Work Datasets

Description

BIM-EPIC can release disk space or tapes used for controlled temporary datasets at close or at end-of-job. Examples of these datasets are compiler work files which are intermediate output files from various “translation” programs like those used for Command Level CICS, SQL, DB2, etc.

To automatically delete these datasets without using the JCL requirements options below, use the BIM-EPIC Common Work Datasets (CWDS). CWDS dataset names begin with $$$. See “CPU and Partition Independence” in this chapter for additional information.

DSN Catalog

You must catalog the BMI-EPIC dataset definition as work. If you use Online Manager, specify WRK. If you use TSIDMNT, specify WRK=YES.

JCL Requirements

Except for CWDS datasets, the following JCL options must be used.

- For TLBLs, specify option code 4.
- For DLBLs, specify option code D, P, or X in the dataset name.
- For DD statements, specify DISP=(NEW,DELETE,DELETE).

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CPU and Partition Independence

Description

CPU and partition independence are normally used with work datasets. CPU and partition independence allow you to use a single set of JCL to run in any partition or CPU. Because BIM-EPIC inserts a partition and/or CPU ID into the dataset name to make the dataset name unique, there is no duplication of the dataset names in different partitions or machines. For example, in your JCL you could specify ===.SORTWRK1 as the dataset name. The three equal signs (=) designate both CPU and partition independence. When you run the job in the BG partition of CPU ID 1, BIM-EPIC uses the dataset name BG1.SORTWRK1. When you run the job in the F4 partition of CPU ID 2, BIM-EPIC uses the name F42.SORTWRK1.

DSN Catalog

When using the "===." format, you must catalog a separate dataset definition for each partition/CPU ID combination you intend to use. When cataloging your dataset, specify the partition/CPU ID first, then a period, and then the dataset name. Using the previous example, the catalog names would be BG1.SORTWRK1 and F12.SORTWRK1. When using both CPU and partition independence, the partition ID precedes the CPU ID.

When using Common Work Datasets (CWDS), it is not necessary to catalog a separate dataset definition for each partition/CPU ID combination used. You may also choose to use CWDS for temporary datasets, especially compiler work files, such as IJSYS*nn*. However, since they are deleted at end-of-job, they may not be appropriate for everything.

JCL Requirements

There are several JCL requirements you must consider.

- For both DLBL and DD statements, you must prefix your dataset name with at least one equal sign (=) and a period (.). For example:

Format	Specifies...
=.dataset.name	CPU independence only
==.dataset.name	Partition independence only
===.dataset.name	Both CPU and partition independence

- The "=" and "." are part of the 44 character dataset name.
- For DD statements, you can substitute two ampersands (&&) for the equal signs and omit the period. If you are concerned about MVS compatibility, using the ampersands can be an advantage because ampersands signify a temporary dataset to MVS.

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Example

The following dataset will have a unique name in the VTOC in any partition or CPU in which the dataset is used.

```
// DLBL WORKOUT,'===.WORKFILE.1'
```


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Common Work Datasets

Description

The easiest way to control sort work, compiler work areas, and any other disk-only dataset that does not need to be kept after end-of-job is to use the Common Work Dataset (CWDS) feature.

When a dataset name begins with three dollar signs and a period, for example $$$. or £££. if in the U.K., BIM-EPIC recognizes the dataset as a CWDS. The $$$. or £££. in the dataset name is replaced by the CPU ID and partition ID that executed the job. This substitution is the reverse of === datasets to avoid any conflicts if both are used with the same dataset name. In addition, a CWDS is automatically deleted at end-of-job, even if the job cancels.

Since each version is deleted at the end of every job, no versions are recorded in the DSN Catalog or kept on disk. If you attempt to open a version as input in a new job, the job cancels with an appropriate error message.

CWDS requires you to catalog only one dataset name. This is different from CPU/partition independence which requires you to catalog a partition/CPU independent dataset name for every partition and machine combination in which the dataset can be used.

DSN Catalog

In the DSN Catalog, you must:

- Catalog the dataset name beginning with $$$. or £££. if in the U.K. Use the remaining 40 characters to name the dataset.
- Specify the dataset as work. If you use Online Manager, specify WRK. If you use TSIDMNT, specify WRK=YES.
- Cycle, retention period, and DLA retention are ignored if they are specified.

Example

The following control statement catalogs a CWDS using TSIDMNT.

```
CAT  '$$$.SORTWK1',WRK=YES,POL=POOL01,EXT=120
```

JCL Requirements

There are two JCL requirements you must consider.

- Specify the dataset name beginning with $$$. or £££. if in the U.K.
- No delete options are necessary on the DLBL or DD statement.

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TYPEFLE=WORK DTF Datasets

Description

Datasets that have TYPEFLE=WORK DTFs are processed differently from other sequential datasets. Common TYPEFLE=WORK DTFs include compiler work datasets and FORTRAN disk datasets.

BIM-EPIC can process TYPEFLE=WORK DTFs on disk only (DTFSD). You can, of course, still use TYPEFLE=WORK DTFs with tape if the tape dataset is uncontrolled.

TYPEFLE=WORK DTFs can be controlled as Start Track 1 or cataloged datasets. However, you should use the DSN Catalog to eliminate many allocation problems. For example, BIM-EPIC automatically reuses the same extents used by an earlier version of a cataloged dataset, if one exists. If you use Start Track 1 datasets, the old dataset is deleted the next time a dataset with the same dataset name is opened.

Secondary extents are not allowed.

DSN Catalog

In the DSN Catalog, you must:

- Catalog the dataset as work. If you use Online Manager, specify WRK. If you use TSIDMNT, specify WRK=YES.
- Inhibit LUB allocation for the dataset by specifying a SYS number in the definition.

JCL Requirements

There are several JCL requirements you must consider.

- Inhibit LUB allocation if this is not done through the DSN Catalog.
- For a DLBL, specify the DLBL option code N in the dataset name.
- For DD statements, include the OPTION=SYS*nnn* parameter.

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Compiler Work Datasets

Description

Compiler work datasets have the same requirements as TYPEFLE=WORK DTF datasets, described earlier in this chapter. However, there are a few additional requirements that are described in this section.

DSN Catalog

Compiler work datasets should be controlled with a disk pool that contains volumes of the same device type as SYS001, SYS002,SYS003, SYS004, and SYSLNK.

JCL Requirements

There are several JCL requirements you must consider.

- Each compiler does a pre-open check to determine the device type prior to opening the work datasets. Logical units SYS001, SYS002, SYS003, SYS004, and SYSLNK must be pre-assigned to the same device type that will be used for the compiler work datasets. You can use permanent or temporary assignments to accomplish this task.
- All compiler work dataset labels must be submitted before the compiler is executed.
- LUB allocation is inhibited automatically, since the DTF names begin with IJSYS.

Example

The following is an example of a compiler work dataset.

```
// JOB COMPILE AND LINK EDIT
// ASSGN SYS001,SYSWK1
// ASSGN SYS002,SYSWK1
// ASSGN SYS003,SYSWK1
// ASSGN SYS004,SYSWK1
// ASSGN SYSLNK,SYSWK1
// DLBL IJSYS01,'$$$.IJSYS01'
// EXTENT SYS001
// DLBL IJSYS02,'$$$.IJSYS02'
// EXTENT SYS002
// DLBL IJSYS03,'$$$.IJSYS03'
// EXTENT SYS003
// DLBL IJSYS04,'$$$.IJSYS04'
// EXTENT SYS004
// DLBL IJSYSLN,'$$$.IJSYSLN'
// OPTION CATAL
 PHASE PROGX,*
// EXEC FCOBOL
 (COBOL SOURCE)
/*
// EXEC LNKEDT
/&
```


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Uncontrolled Datasets

Description

Any dataset that is not controlled using the DSN Catalog or Start Track 1 is called an uncontrolled dataset. With a few exceptions, uncontrolled datasets are not provided with any additional features than are available when using standard VSE JCL.

For uncontrolled tape datasets, BIM-EPIC provides protection for all output tapes to ensure that any tape with an active status in the BIM-EPIC Catalog is not used. Additionally, if the configuration option UNCTL=NO is set, uncontrolled tape datasets cannot use any tape in the DSN Catalog, even if the tape has a scratch status. VSE ASSGN statements are not required for uncontrolled tape datasets. If there is no assignment, the operator is prompted to specify an available tape drive to use and BIM-EPIC will make the appropriate assignment. Unlike controlled tape datasets, the assignment is not released at close unless the configuration option UNCTAP=YES is set.

Uncontrolled disk datasets can be placed within the disk pool extents if the datasets are created with adequate retention. ASSGN and EXTENT statements are normally required but if the configuration option UNCDSK=YES, the ASSGN statement is optional.

JCL Requirements

No special options are required for uncontrolled datasets.

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Physical IOCS Processing

Description

Some VSE system utilities, sort programs, report writers, database utilities, and other programs process datasets with Physical IOCS (PIOCS) instead of Logical IOCS (LIOCS).

Many different issues can come into play when a program uses PIOCS to process datasets that are under BIM-EPIC control. If you familiarize yourself with the issues described below, you can make any PIOCS program work with BIM-EPIC-controlled datasets.

PIOCS Issues

PIOCS issues to consider are:

- When a program requires a specific logical unit, you must inhibit LUB allocation for every dataset processed in that job step. There are some cases in which LUB allocation is inhibited automatically. See “Using LUB Allocation and the ASSGN Statement” for additional information.
- Satisfy pre-open checking.
  - Make an assignment to a device type, using any of the following methods:
    - Make a permanent assignment, as for SYS001 through SYS005 and SYSLNK
    - Make a temporary assignment
    - Use the DD OPTION=SYS*nnn* parameter
    - Execute TSIDSRT for SORT or TSIDASS ASSGN for other programs

      If you make a disk assignment using the VSE ASSGN statement, assign the dataset the same type of device as the device used for the dataset. For example, you can assign a disk dataset with the following statement:

      ```
      // ASSGN SYS003,DISK,VOL=SYSWK1,SHR
      ```

      If SYSWK1 is a 3380, for example, your dataset can be created on any 3380 volume.
  - For other programs like DITTO, some IDCAMS commands, and some SORT products, include an EXTENT card with the assigned logical unit number. The xxx.SAMPJOB members in the VSE sub-library containing BIM-EPIC have a large number of examples for specific programs.

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- Many programs that use PIOCS do not issue an open request that BIM-EPIC can recognize. In this case, you can satisfy the BIM-EPIC open processing requirements by executing the TSIDASS OPEN function to simulate the opening of both input and output datasets. This is required only when the program does not issue an open or does I/O to the dataset before the dataset is opened. Examples include some DITTO functions, LIBR stand-alone backups, and most FORTRAN compilers.

- Use caution when using the BIM-EPIC concatenation feature. BIM-EPIC cannot recognize end-of-file processing for many PIOCS programs. Therefore, the BIM-EPIC dataset concatenation may not work with these programs.

- Most PIOCS programs do not honor the BIM-EPIC dataset reblocking facility. Alternate block sizes must be specified by submitting control statements to the program. For sorts, you can use TSIDSRT to automatically update the control statements with the BIM-EPIC block size.

- BIM-EPIC Generic Device Independence (GDI) cannot be used with PIOCS.

- Some PIOCS programs do not provide the address of the last record written. Therefore, BIM-EPIC may not be able to truncate the dataset when it is closed.

Utility Programs

BIM-EPIC provides the following utility programs to assist in processing with PIOCS programs.

Program	Can be used for...
TSIDASS	Pre-open assignment checking and simulation of open processing
TSIDSRT	Sort programs
TSIDDEL	Deleting disk work datasets that have not been closed

See Chapter 8, “BIM-EPIC Utilities,” for additional information.

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Sort Programs

Sorting with BIM-EPIC

Description

This section describes the considerations necessary to use BIM-EPIC controlled datasets with sort programs. Specifically, this section covers the following sort programs:

- SYNCSORT using BIM-EPIC Interface
- IBM SORT beginning with DFSORT 3.3
- CA-SORT

All sort programs check the assignment of a particular logical unit number (SYS*nnn*) before actually opening a particular file. This process is known as pre-open checking and uses Physical Input Output Control Systems (PIOCS) to open, close, read, and write the datasets. Therefore, when using some sort programs, special considerations may be necessary when accessing BIM-EPIC controlled datasets. These considerations fall into three categories:

- Satisfying pre-open checking
- Acquisition of necessary DTF information
- Deletion of the SORTWK dataset(s)

Pre-open checking can be satisfied using JCL considerations. BIM-EPIC automatically deletes controlled SORTWK datasets at the end of a job. DTF information not supplied by the sort program either is lost or must be acquired by other means.

Using the Sort Interface (TSIDSRT)

Description

The BIM-EPIC sort interface program, TSIDSRT, addresses all the considerations described in the previous section. In addition, under normal conditions, TSIDSRT does not require any JCL changes, except the phase name on the EXEC statement. TSIDSRT performs the following functions:

- Reads the sort control statements and modifies the input BLKSIZE to match the block size in the BIM-EPIC Catalog

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- Assigns tape datasets to a dummy tape device and opens disk datasets to satisfy pre-open checking
- Calls the sort program
- Uses the SORTE35 exit routine to write the SORTOUT dataset
- Allows access to DTF information necessary to support such BIM-EPIC options as disk dataset truncation, reblocking, and logging of block size, record size, and record count
- Closes SORTWK datasets to enable the datasets to be deleted

Unless you are using a sort program that has a direct interface to BIM-EPIC, such as SYNCSORT or DFSORT, it is recommended that TSIDSRT be used when BIM-EPIC-controlled datasets are used. BIM-EPIC special option EPS083 will instruct BIM-EPIC to automatically change SORT to TSIDSRT on EXEC statements.

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Sorting Specifics

Many BIM-EPIC features rely on DTF information that is automatically provided by the Logical Input Output Control Systems (LIOCS) access methods. BIM-EPIC also relies on the standard open, close, end-of-extent, and end-of-reel processing used by LIOCS. Not all sort programs use LIOCS to process data so the functionality of the BIM-EPIC features can vary depending on which sort product is used.

The following details how specific BIM-EPIC features perform when used with several sort programs. These considerations apply when the sort program is directly executed using the VSE EXEC statement and then only to datasets that are opened directly by the sort program. These considerations do not apply to datasets that may be opened by user-written sort exits. The following characteristics apply to the SORTWK file when the sort program is invoked by TSIDSRT or by another program internally.

BIM-EPIC feature	IBM SORT prior to DFSORT 3.3	IBM SORT DFSORT 3.3 and above	SYNCSORT without interface to BIM-EPIC	SYNCSORT with interface to BIM-EPIC	CA-SORT	TSIDSRT
Reblocking	No	No	No	Yes	No	Yes
Truncation of disk output dataset	No	No	Yes	Yes	No	Yes
Deletion of SORTWK (using close)	No	Yes	Yes	Yes	Yes	Yes
DTF information posting	No	No	No	Yes	No	Yes
LUB allocation	No	Yes	Yes	Yes	Yes	Based on sort program
Disk dataset concatenation	No	Yes	No	Yes	Yes	Based on sort program
Tape dataset concatenation	No	Yes	Yes	Yes	No	Based on sort program
Secondary SORTWK allocation	No	Yes	Yes	Yes	Yes	Based on sort program
Assignments required before SORTIN, SORTOUT or SORTWK opened?	Yes	No	No	No	No	No

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SYNCSORT using BIM-EPIC Interface

SYNCSORT offers options to improve compatibility with BIM-EPIC. See the *SYNCSORT Installation Guide* for information describing these options. In addition, BIM-EPIC has special options which must be activated when using SYNCSORT. See the *BIM-EPIC Installation and System Guide* for additional information.

When the special options are activated, LUB allocation and secondary SORTWK allocations are supported. SORTWK datasets are closed to allow the datasets to be deleted, and disk output datasets are closed to allow file truncation. In addition, SYNCSORT communicates directly with BIM-EPIC to determine input file block sizes and to allow output file record and block sizes to be stored in the DSN Catalog and on tape HDR2 labels.

As a result, problems typically associated with sort programs are solved when using BIM-EPIC controlled datasets.

IBM SORT beginning with DFSORT 3.3

DFSORT offers an option to improve compatibility with BIM-EPIC. See the *DFSORT/VSE Installation and Tuning Guide* for information on customizing DFSORT/VSE for details. If DFSORT is used with its File Management feature activated, LUB allocation and secondary SORTWK allocations are supported, and input datasets can be concatenated. In addition, pre-open checking checks the type of label that was submitted for a dataset to determine if the label resides on tape or disk.

As a result, some of the problems typically associated with sort programs are resolved when using BIM-EPIC controlled datasets.

CA-SORT

CA-SORT offers an option to improve compatibility with BIM-EPIC. See the *CA-SORT Systems Programmer Guide* for information. When this option is active and normal CA-SORT are used, LUB allocation and secondary SORTWK allocations are supported, and input disk datasets can be concatenated. In addition, the method by which pre-open checking is accomplished is to check the type of label that is submitted for a dataset to determine if it resides on disk or tape.

As a result, some problems typically associated with sort programs are resolved when using BIM-EPIC controlled datasets.

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Using SORTWK Datasets

Description

To provide optimal use of disk work space, SORTWK datasets should be defined as temporary datasets and deleted as soon as they are no longer in use.

DSN Catalog

There are two DSN Catalog requirements to consider.

- Catalog SORTWK datasets as work. If you use Online Manager, specify WRK. If you use TSIDMNT, specify WRK=YES.
- Use the CWDS facility or partition/CPU-independent datasets so that the datasets can be processed in any partition without conflict.

JCL Requirements

You can use various BIM-EPIC options, listed below, to delete SORTWK areas when the sort is complete. These options include:

- Controlled SORTWK datasets are deleted automatically at end of job.
- Common work datasets ($$$) are also deleted at end of job.
- If the sort program closes SORTWK, use the DLBL option code D or the DD parameter DISP=(,DELETE) to delete SORTWK at close.
- If the sort program does not close SORTWK, use the DLBL option code D or the DD parameter DISP=(,DELETE) and execute TSIDDEL after every sort step.

For jobs that contain multiple sort steps, SORTWK datasets should be deleted after each sort step, using either option 3 or option 4 above.

Pre-Open Checking

All sort functions check specific SYS numbers to determine the device type for each dataset that is opened. The search stops as soon as a SYS number is found. The sort functions search several sources, in the order listed below, for the SYS number used for each dataset. These sources are:

- The SYS number found in the VSE label area for disk datasets (from the EXTENT statement or the DD OPTION=SYS*nnn* parameter)
- Sort control statements (SORTIN, SORTOUT, SORTWK keywords) which TSIDSRT can modify if necessary

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- Sort defaults (standard or user-specified: SYS001 for SORTOUT, SYS002 for SORTIN1, SYS003 for SORTWK, and so on)

Note:
If LUB allocation is active for sort datasets, the SYS numbers checked by the sort in the pre-open processing may not be the same SYS numbers assigned by BIM-EPIC when the open actually occurs.

JCL Requirements

Pre-open assignments can be completed by using any of the following media:

Media	Method
Disk	Permanent assignments in partition start-up procedure. Temporary assignments in each job
Tape	Execute TSIDASS with the ASSGN command
Tape or Disk	Use the DD OPTION=SYS*nnn* parameter. Execute TSIDSR

One popular method of satisfying pre-open requirements for the sort and compilers is to permanently assign SYS001 through SYS005 to disk in every partition in which the compiler may be used. The disk assigned must be the same device type as the device type in the BIM-EPIC disk pool.

Examples

Many sample job streams for sort applications are supplied when BIM-EPIC is installed. These are in the xxx.SAMJOB members of the VSE sub-library where BIM-EPIC is installed. See the *BIM-EPIC Installation and System Guide* for additional information.

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Additional Functionality

Controlling IDCAMS Backup Datasets

Description

You can use BIM-EPIC to control the IDCAMS backup dataset. This backup dataset is produced by the BACKUP command and is used by the RESTORE command. IDCAMS allows the backup dataset to reside on either tape or disk.

DSN Catalog

Only prime dataset definitions are allowed. Therefore, multi-dataset tape groups are specifically disallowed. For disk only, non-generation single-extent disk datasets (WRK=YES) residing on CKD devices only may be used. Truncation must be bypassed.

JCL Requirements

There are several JCL requirements you must consider.

- Each controlled tape dataset must be defined with a TLBL statement or DD statement.
- Each controlled disk dataset must be defined with a DLBL statement and abbreviated EXTENT statement (// EXTENT SYS00*n*) or a DD statement with OPTION=SYS00*n*.
- LUB allocation must be inhibited since IDCAMS requires SYS005 for the output backup dataset and SYS004 for the input backup dataset.

Restrictions

Due to IDCAMS restrictions, you cannot use GDI to route a tape backup to disk or vise-versa. When using disk for the backup dataset, a new extent must be allocated and the correct assignment must be made before starting the BACKUP command.

Examples

Many sample job streams for IDCAMS BACKUP and RESTORE are supplied when BIM-EPIC is installed. See the *BIM-EPIC Installation and System Guide* for additional information.

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Controlling IDCAMS REPRO Datasets

Description

You can use BIM-EPIC to control IDCAMS REPRO non-VSAM sequential datasets for both input and output.

DSN Catalog

No restrictions exist. For disk, both generation and non-generation datasets with single or multiple extents may be used. For tape, both single and multi-dataset groups and single or multiple tape volumes may be used.

JCL Requirements for Tape

There are two JCL requirements you must consider.

- Each controlled dataset must be defined with a TLBL statement, a DLBL statement, or a DD statement.
- LUB allocation must be inhibited since IDCAMS requires SYS005 for output datasets and SYS004 for input datasets.

JCL Requirements for Disk

Each controlled dataset must be defined with a DLBL statement and abbreviated EXTENT statement (// EXTENT SYS00*n*) or a DD statement with OPTION=SYS00*n*. When using a DLBL and EXTENT, the SYS number chosen must be assigned to a disk. Although you can use the SYS number of your choice, typically SYS001 is an easy choice since most installations have SYS001 permanently assigned to disk.

Examples

Many sample job streams for IDCAMS REPRO are supplied when BIM-EPIC is installed. See the *BIM-EPIC Installation and System Guide* for additional information.

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Using IDCAMS IMPORT/EXPORT Commands

Description

You can use BIM-EPIC to control the portable file produced by the EXPORT command and read by the IMPORT command.

DSN Catalog

No restrictions exist. For disk, both generation and non-generation datasets with single or multiple extents may be used. For tape, both single and multi-dataset groups and single or multiple tape volumes may be used.

JCL Requirements for Tape

There are two JCL requirements you must consider.

- Controlled portable files must be defined with a TLBL statement, a DLBL statement, or a DD statement.
- LUB allocation must be inhibited since IDCAMS requires SYS005 when creating a portable file and SYS004 when reading a portable file.

JCL Requirements for Disk

Each controlled dataset must be defined with a DLBL statement and abbreviated EXTENT statement (// EXTENT SYS00*n*) or a DD statement with OPTION=SYS00*n*. When using DLBL and EXTENT, the SYS number chosen must be assigned to a disk. Although you can use the SYS number of your choice, typically SYS001 is an easy choice since most installations have SYS001 permanently assigned to disk.

Examples

Many sample job streams for IDCAMS EXPORT and IMPORT are supplied when BIM-EPIC is installed. See the *BIM-EPIC Installation and System Guide* for additional information.

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Using LIBR BACKUP/RESTORE Commands

Description

You can use BIM-EPIC to control the tape datasets created by the LIBR BACKUP command and read by the LIBR RESTORE command.

DSN Catalog

Only prime dataset definitions are allowed. Therefore, multi-dataset tape groups are specifically disallowed.

JCL Requirements

There are several JCL requirements you must consider.

- Each controlled dataset must be defined with a TLBL statement or DD statement.
- LUB allocation must be inhibited since LIBR requires the SYS number specified in BACKUP or RESTORE. In addition, the tape drive assignment must be held after the dataset is closed since LIBR may attempt to access the tape drive even after the close has been completed.
- When including the standalone restore programs, RESTORE=STANDALONE, in BACKUP, use the TSIDASS OPEN function to allocate the first tape output volume before performing the // EXEC LIBR BACKUP.

LIBR Control Statements

Use TAPELABEL parameter to specify a filename consisting of one to seven alphanumeric characters. This is the same filename used in the accompanying TLBL statement or DD statement.

Restrictions

Due to LIBR restrictions, you cannot use GDI to route a tape backup to disk.

Examples

Many sample job streams for LIBR BACKUP and RESTORE are supplied when BIM-EPIC is installed. See the *BIM-EPIC Installation and System Guide* for additional information.

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Using DITTO

Description

You can use BIM-EPIC to control tape and sequential disk files logically accessed by DITTO. However, DITTO requires excessive JCL requirements. You can use TSIDDTD and TSIDDMP, which require minimal JCL, for equivalent results. When card-image processing is required, use your sort program if your sort program supports card-image processing or IDCAMS REPRO.

DSN Catalog

Only prime dataset definitions are allowed. Therefore, multi-dataset tape groups are specifically disallowed.

JCL Requirements for Tape

When using tape, there are several JCL requirements to consider.

- Each controlled dataset must be defined with a TLBL statement or DD statement.
- LUB allocation must be inhibited since DITTO requires the SYS number(s) specified in the DITTO control statement.
- The input volume and output volumes must be allocated before DITTO is invoked and then repositioned back to load point. Use the TSIDASS OPEN function to allocate the volumes.
- Configuration Option EPS022 must be set if BIM-EPIC reblocking options are invoked.
- Configuration Option EPS029 must be set to prevent BIM-EPIC from clearing the dataset name from the input label statements.

JCL Requirements for Disk

When using disk, there are two JCL requirements you must consider.

- Each controlled dataset must be defined with a DLBL statement or DD statement.
- As described above, input and output datasets must be allocated before DITTO is invoked.

Restrictions

BIM-EPIC can only control datasets used by the DITTO tape file functions and disk file functions, also called Sequential or SAM. Files used by the DITTO basic tape functions and basic disk functions cannot be controlled by BIM-EPIC since those functions do not use logical IOCS.

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Examples

Many sample job streams for DITTO applications are supplied when BIM-EPIC is installed. See the *BIM-EPIC Installation and System Guide* for additional information.

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Using VSE/POWER ACCOUNT Command

Description

You can use BIM-EPIC to control tape and sequential disk files created by the VSE/POWER ACCOUNT command.

DSN Catalog

There are no tape dataset restrictions.

For disk, the pool must be made up of the exact same DASD type as the type used for the VSE/POWER account file (IJAFILE). Specify an adequate primary allocation value, as not all versions of VSE/POWER will request secondary allocations even if they are needed. Historically, a primary allocation value equal to the allocated size of IJAFILE has been adequate.

JCL Requirements for Tape

When using tape, there are two JCL requirements you must consider.

- Controlled account files must be defined with a TLBL statement and must be stored in the system standard label area, VSE/POWER partition standard label area, or VSE/POWER partition user label area.
- LUB allocation must be inhibited since VSE/POWER will dynamically choose the SYS number that will be used.

JCL Requirements for Disk

When using disk, there are several JCL requirements you must consider.

- Controlled account files must be defined with the DLBL statement and must be stored in the system standard label area, VSE/POWER partition standard label area, or VSE/POWER partition user label area.
- If the controlled account file is inhibited for LUB allocation, supply an abbreviated EXTENT (// EXTENT SYS*nnn*) containing a SYS number that is not used by POWER.
- If the controlled account file is not inhibited for LUB allocation, supply an abbreviated EXTENT (// EXTENT SYS*nnn*) containing any valid SYS number.

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Using VSE/POWER PDISPLAY, POFFLOAD and Printer/Punch Tape Spooling

Description

With the introduction of standard label support for POWER tape spooling of print data, punch data, and POFFLOAD tapes, it is possible to use BIM-EPIC controlled tapes and dataset names for these functions even though some restrictions apply. To invoke BIM-EPIC control of these tape datasets, specify the TLBL= operand and the LTAPE= operand in the appropriate VSE/POWER command or JECL control statement.

DSN Catalog

BIM-EPIC datasets must be defined to the BIM-EPIC Catalog only as prime datasets. Do not attempt to use sub-datasets. POWER may successfully write data to sub-datasets, but may be unable to read it because additional tape marks may be imbedded within that data.

Datasets may be cataloged as unlabeled. However, because VSE/POWER is not able to recognize unlabeled multi-volume versions beyond the first volume, labeled data sets are preferred. If unlabeled datasets are used, it is your responsibility to recognize the presence of unlabeled multiple volumes within a version. The remaining volumes can be processed with additional VSE/POWER commands.

JCL Requirements

There are several JCL requirements you must consider.

- The actual TLBL control statement referenced by the TLBL= operand MUST be stored in the standard label area, the VSE/POWER partition label area, or the VSE/POWER user label area.
- LUB allocation must be inhibited since VSE/POWER will dynamically choose a SYS number to use.
- VSE/POWER continues to make and release tape device assignments. This prevents BIM-EPIC from doing Automatic Volume Recognition (AVR). VSE/POWER determines which tape drive to use in PDISPLAY or POFFLOAD commands, or in the TADDR operand on the * $$ LST or * $$ PUN JECL statements. If the TADDR operand is not specified, the operator response to the console message 1Q55D SPECIFY TAPE ADDRESS will be used.
- If the output fills more than a single tape volume, VSE/POWER will invoke VSE/SAM End-of-Volume procedures, unload the current tape, and issue the message:

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```
4140A NO ALTERNATE DRIVE ASSIGNED ... SYSXXX=CUU
```

Since VSE/POWER has the tape drive assigned, BIM-EPIC is unable to use AVR on other tape drives to determine an available scratch tape. The operator must mount a fresh scratch tape on the indicated drive and respond with NEWTAP.

If input spans multiple tape volumes, VSE/POWER will invoke VSE/SAM End-of-Volume procedures, unload the current tape, and issue the message:

```
4140A NO ALTERNATE DRIVE ASSIGNED ... SYSXXX=CUU
```

Since VSE/POWER has the tape drive assigned, BIM-EPIC is unable to use AVR on other tape drives to determine the next volume in the version. The operator must mount the required volume on the indicated drive and respond with NEWTAP.

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Setting DB2 Tape Output Functions

Description

DB2 is a long running task that manages database files in a VSE environment. DB2 has the ability to archive database files and their corresponding journal files. This is done by invoking the VSE Operator Communications Facility in the DB2 partition, for example, MSG*xx*, where *xx* is the DB2 partition ID. DB2 then prompts the console operator with various questions that initiates the archive process.

If BIM-EPIC is to control the DB2 archive tapes, the LUB-allocation process must be suppressed. This is because both BIM-EPIC and DB2 will want to manage the tape device allocation process, thereby causing a conflict.

The technique described below allows BIM-EPIC to control DB2 output tapes. The technique is specific to the DB2 ARCHIVE process, but should also work for other DB2 tape output operations.

BIM-EPIC Requirements

The BIM-EPIC LUB-allocation process must be suppressed. This is done using any of the following methods:

- Setting TAPLUB=NO; however, this may not be desirable for non-DB2 processing
- Using the TLBL option code 64 on each DB2 archive output tape
- Defining each DB2 archive tape dataset name in the BIM Catalog; do not specify a SYS number in the definition
- Using prime dataset names; do not catalog these DSNs as sub-datasets

If you use TAPLUB=YES or *nnn*, each DB2 archive TLBL should use the TLBL option code 64. However, you can use the Unload At Close TLBL option code 2. If both TLBL options are desired, the option entered for the TLBL will be 66 (TLBL option code 64 plus TLBL option code 2).

Once the console operator has requested an archive, DB2 will prompt for the address of a tape drive to use for archive output. Respond with the drive address (cuu) of any available tape device.

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JCL Examples

If TAPLUB=NO is set:

```
// TLBL ARILARC,'yourDsn1'
// TLBL ARIARCH,'yourDsn2'

TAPLUB=YES  or TAPLUB=nnn

// TLBL ARILARC,'yourDsn1',,,,,,64
// TLBL ARIARCH,'yourDsn2',,,,,,64

or

// TLBL ARILARC,'yourDsn1',,,,,,66
// TLBL ARIARCH,'yourDsn2',,,,,,66
```


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Identifying VSE/ICCF and Interactive Partition GETVIS Requirements

Description

The following GETVIS discussion applies to ICCF pseudo partitions and not to the ICCF partition.

An ICCF pseudo partition has 48K of GETVIS. This allocation cannot be changed. If BIM-EPIC is active in the pseudo-partition, more than 48K of GETVIS will often be required to initiate many programs, for example, DTSUTIL. If sufficient GETVIS is not available, abnormal termination may result or BIM-EPIC messages EP042 and EP042A, (referring to an insufficient GETVIS condition) may display. If DTSUTIL is invoked from the command line with one of these commands, the following insufficient GETVIS condition may occur:

```
$DTSUTIL
/RUN DTSUTIL
```

If you invoke DTSUTIL from the VSE Interactive Interface, a CDLOAD failure has been allocated to the ICCF/CICS partition itself.

Circumvention

When using DTSUTIL, you can work around the GETVIS space limitation by storing a member named DTSUTIL in a VSE/ICCF library, preferably the common library. This member will contain the following:

```
/LOAD DTSUTIL
/OPTION GETVIS=256K
```

This same technique can be used for any program which ICCF runs in a pseudo-partition.

When the library file has been stored, you can run the program with the ICCF /EXEC command. Using DTSUTIL as an example, enter the following ICCF command:

```
/EXEC DTSUTIL
```

ICCF searches for the first DTSUTIL member in an ICCF library and executes the ICCF job control found in that member. If adequate GETVIS storage is requested, the program will successfully execute.

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Using the COBOL II Library Management Feature

Description

BIM-EPIC requires the COBOL II Library Management feature be used when compiling COBOL II programs. Use the COBOL II CBL RES option to accomplished this task.

In some cases, you may have COBOL II software which was not compiled with the Library Management feature. Special JCL is required to run these programs with BIM-EPIC.

DSN Catalog

No special entries are required.

JCL Requirements

There are several JCL requirements you must consider.

- Each controlled disk datasets must be pre-opened by using the TSIDASS OPEN function for each dataset.
- For all uncontrolled disk datasets, instead of an EPIC pool name, the correct volume serial number must be specified on the EXTENT statement. You must also make an assignment to the device with a VSE ASSGN statement.
- For all tape datasets, you must assign the dataset to a tape drive using VSE ASSGN statement or using the TSIDASS ASSGN function.

Examples

The following example processes a controlled input disk dataset. The dataset is pre-opened using TSIDASS.

```
// DLBL DISKIN,'TEST.INPUT.DISK, (L)'
// EXEC TSIDASS
 OPEN DISKIN,SYS020,INPUT
/*
// EXEC PROGA
```

The following example processes an uncontrolled input disk dataset. VSE ASSGN and EXTENT statements are used to satisfy the COBOL II pre-open process.

```
// ASSGN SYS020,154
// DLBL DISKIN,'TEST.INPUT.DISK'
// EXTENT SYS020,VOL154,1,0,15,75
// EXEC PROGA
```

The following example processes a controlled tape dataset. The TSIDASS ASSGN function is used to satisfy the COBOL II pre-open process.

```
// DLBL TAPEIN,'TEST.TAPE',,,,,,64
// EXEC TSIDASS
 ASSGN SYS011
```


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```
/*
// EXEC PROGA
```


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JCL Functions

Restarting From a Checkpoint

Description

To prepare to restart programs from a checkpoint:

1. Close all output datasets using TSIDMNT or Online Manager CLOSE function.
2. Use the console log to determine which input and output tape volumes have been used and which checkpoints have been taken.

DSN Catalog

All datasets must be cataloged. Start Track 1 datasets cannot be used with checkpoint/restart. You must specify the SYS number in the catalog entry for disk datasets. You can also specify the SYS number for tape datasets.

JCL Requirements

To prepare the restart job:

1. Verify that you use the same job name, supervisor, and partition.
2. Execute TSIDASS RSTRT in the step just prior to VSE RESTRT. See “Pre-Open Processing (TSIDASS)” for additional information.
3. Define each controlled dataset in the TSIDASS RSTRT step. Remember that all the output datasets are now the current versions in the DSN Catalog. Therefore, you must submit all output RSTRT statements first and the input statements last.
4. For tape, specify the volume sequence number on the label, if you restart with volume 2 or later. If you are processing a multi-dataset group, BIM-EPIC positions the tape automatically. You must inhibit LUB allocation
5. For disk, supply the EXT parameter to identify the last extent opened.
6. Follow the TSIDASS step with VSE ASSGN statement for the checkpoint dataset. Use the logical unit number that was used when the dataset was opened in the previous execution. The logical unit numbers can be found in the EP039 and EP053 messages that were displayed in the failing job.
7. Assign the SYS number used for the checkpoint dataset with VSE ASSGN if checkpoints are not embedded in the output dataset.

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8. Execute the restart job.

Example

The following example shows how TSIDASS restarts both input and output datasets at volume 2, using the same SYS numbers that were used when the checkpoint was taken. The TLBL option code 64 inhibits LUB allocation. When a checkpoint is embedded, it is written to the same output tape as the output dataset using an assignment of SYS019. Because the checkpoints are embedded, a VSE ASSGN statement is used to assign SYS019 to the checkpoint dataset. The job is restarted at checkpoint 3.

```
// JOB TESTCHKP
// TLBL TAPIN,'TEST.FILE1',,,2,,,64
// TLBL TAPOUT,'TEST.FILE2',,,2,,,64
// EXEC TSIDASS
RSTRT TAPOUT,SYS021,OUTPUT
RSTRT TAPIN,SYS020,INPUT
/*
// ASSGN SYS019,SYS021
// RSTRT SYS019,3
/&
```


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Choosing the Device Type

Description

Generic Device Independence (GDI) and Generic Device Independence for Unit Record Devices (GDIUR), sometimes called storage media independence, allow you to choose the type of media on which your dataset will be stored.

With GDI, you can process the dataset on either tape or disk, without having to change the media type in the program's dataset definition.

GDIUR allows you to use disk or tape for datasets that have been defined in your programs as unit record devices, for example DTF types DTFCD, DTFPR, DTFCP, and DTFDI. GDIUR can be used for logical units SYS000 through SYS255 and for SYSIPT, SYSLST, and SYSPCH.

GDIUR greatly simplifies the use of disk for VSE datasets that use the logical units SYSIPT, SYSLST, and SYSPCH. The following standard VSE JCL is an example of creating a disk dataset on logical unit SYSPCH and then reading that dataset with logical unit SYSIPT.

```
// DLBL IJSYSPH,'COBOL.PROGRAM',0
// EXTENT SYSPCH,VOL251,1,0,200,2000
   ASSGN SYSPCH,DISK,VOL=VOL251,SHR
// EXEC DFHECP1$
.
.
   CLOSE SYSPCH,PUNCH
// DLBL IJSYSIN,'COBOL.PROGRAM'
// EXTENT SYSIPT,VOL251
   ASSGN SYSIPT,DISK,VOL=VOL251,SHR
// EXEC FCOBOL
.
.
   CLOSE SYSIPT,SYSRDR
```

There are two issues when using this approach.

- If the first step (DFHECP1$) cancels, SYSPCH will remain permanently assigned to disk. Manual intervention or additional JCL is needed to re-assign SYSPCH correctly.
- If the second step (FCOBOL) cancels, SYSIPT remains permanently assigned to disk. Manual intervention or additional JCL is needed to re-assign SYSIPT correctly.

In addition, the JCL required is complex and lengthy, especially when compared to the following BIM-EPIC JCL which accomplishes the same task.

```
* //IJSYSPH DD DSN=$$$.COBOL,UNIT=DISK,DISP=(,KEEP,DELETE)
// EXEC DFHECP1$
.
.
//IJSYSIN DD DSN=$$$.COBOL,DISP=(OLD,DELETE)
// EXEC FCOBOL
```


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No ASSGN statement or CLOSE statement is needed. GDIUR ensures that system logical units can never be left assigned to disk.

Programs that use GDIUR can also take advantage of the BIM-EPIC reblocking facility to save disk space and improve performance.

Eligibility

You can use GDI or GDIUR for uncontrolled and controlled datasets. However, the following issues must be considered.

- A dataset normally processed as a Start Track 1 disk dataset will become uncontrolled if processed on a tape with GDI.
- GDI applies to tape and disk sequential datasets DTFMT or DTFSD. VSAM, direct access, and ISAM datasets are not eligible.
- GDI and GDIUR datasets must be processed with logical IOCS.
- GDIUR does not support RPG-II SYSLST processing.
- GDIUR datasets cannot have secondary extents.

Configuration Options

The configuration options GDI and GDIUR control the generic device independence.

Invoking Device Independence

You can invoke device independence using any of the following methods:

- In response to a message. A response of TAPE or DISK can be used for an insufficient space message or a request for a scratch tape to force the use of a different device type. (GDI only)
- Automatically for input datasets. BIM-EPIC allocates the correct device type when controlled datasets are processed as input. (GDI only)
- Using JCL. Your job control statements indicate the desired device. For example, use TLBL instead of DLBL to specify that the dataset is to be on tape instead of disk. On a DD statement, specify UNIT=DISK instead of UNIT=TAPE to specify the dataset is to be on disk instead of tape. (Both GDI and GDIUR)

DSN Catalog

Required information for tape and disk must be supplied in the dataset definition for controlled datasets. This includes pooling and allocation information. If the required information is not included, BIM-EPIC prompts the operator for the necessary input.

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JCL Requirements

For uncontrolled tape or disk datasets, use the proper label, for example, TLBL, DLBL, or a DD statement with UNIT.

Note:
This applies to GDI only. You cannot use GDIUR with uncontrolled datasets.

For controlled datasets, no JCL changes are required for GDI input (GDI only). For GDI output and GDIUR input and output, you must invoke GDI by changing the label type to TLBL or DLBL, or device type to UNIT=*type*. No volume or allocation information needs to be supplied in the JCL. For GDIUR, use DD statements. You cannot use a DLBL statement or TLBL statement.

When using GDIUR, it may be necessary to insert the OPTION=RESET parameter on the DD statement after the step to terminate GDIUR processing if subsequent steps reference the same system dataset DTF name and you don't need to control it further using GDIUR. See Chapter 6, “OPTION Parameter,” Reset, in this manual for more information.

Example

The following example routes punch output to a disk dataset using GDIUR.

```
* //IJSYSPH  DD  DSN='CARD.OUTPUT',DISP=(NEW,PASS),
* //             UNIT=DISK
// EXEC PROGRAM
/*
* //IJSYSPH  DD  OPTION=RESET
```


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Controlling System Datasets with VSE Device Independence

Description

Although we recommend that you use GDIUR, you can also control a system dataset that is routed to disk or tape using VSE device independence.

DSN Catalog

No special entries are required.

JCL Requirements

There are several JCL requirements you must consider.

- The dataset cannot have secondary extents
- The dataset must be permanently assigned
- Label information must precede the assignment
- BIM-EPIC assigns VSE system datasets to the correct disk volume, so the assignment can specify any volume in the disk pool

Example

The following example routes SYSPCH output to a BIM-EPIC controlled work dataset, which is then processed using SYSIPT in the subsequent step.

```
// JOB ASSEMBLE AND CATALOG AN OBJECT MODULE
// DLBL IJSYSPH,'==.WORKFILE.1'
ASSGN SYSPCH,DISK,VOL=SYSWK1,SHR
// EXEC ASSEMBLY
  (SOURCE CODE)
/*
CLOSE SYSPCH,PUNCH
// DLBL IJSYSIN,'==.WORKFILE.1'
ASSGN SYSIPT, DISK,VOL=SYSWK1,SHR
// EXEC LIBR
CLOSE SYSIPT,READER
/&
```


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Using Dummy Datasets and ASSGN IGNORE

Description

Dummy processing and ASSGN IGNORE are only supported for LIOCS sequential access methods.

DSN Catalog

No special entries are required.

JCL Requirements

There are several JCL requirements you must consider.

- Assign the logical unit to IGNORE, so that BIM-EPIC ignores the dataset
- Use an EXTENT statement for disk datasets defined with DLBL
- For DD statements, specify the DUMMY parameter instead of the DSN parameter

Examples

The following is an example of a dummy dataset with an ASSGN IGNORE.

```
// ASSGN SYS020,IGN
// TLBL TAPEOUT,'DATA.SET.A'
// ASSGN SYS004,IGN
// DLBL DISKOUT,'DATA.SET.B(L)'
// EXTENT SYS004
* //TAPEOUT DD DUMMY
```


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Using Concatenating Datasets

Description

Dataset concatenation reads multiple versions of a dataset or multiple datasets with one open. This allows you to process a number of datasets as if they were a single dataset.

All versions of concatenated datasets must reside on the same device type. If the datasets have different block sizes, you must read the dataset with the largest block size first.

DSN Catalog

No special entries are required.

JCL Requirements

When using a TLBL statement or a DLBL statement, there are several JCL requirements you must consider.

- Use a separate TLBL statement or DLBL statement for each dataset to be read. Datasets are processed in the order in which their label statements display.
- Use the same DTF name for each statement and supply the concatenation option code for all except the last version, for example, TLBL option code 48 and DLBL option code E.

WARNING:
Do not specify the concatenation code on the last label statement in a concatenation group.

Examples

The following example processes versions 1 through 5 of the DAILY.TRANS dataset on disk with one open. The example also processes WEEKLY.TRANS and WEEKLY.RERUN on tape with another single open. Although there are mixed device types in the job, they are not mixed within a single open, so the device types meet the requirements for concatenation.

```
// DLBL INPUT1,'DAILY.TRANS,(E,V=5)'
// DLBL INPUT1,'DAILY.TRANS,(E,V=4)'
// DLBL INPUT1,'DAILY.TRANS,(E,V=3)'
// DLBL INPUT1,'DAILY.TRANS,(E,V=2)'
// DLBL INPUT1,'DAILY.TRANS'
// TLBL INPUT2,'WEEKLY.TRANS',,,,,,48
// TLBL INPUT2,'WEEKLY.RERUN'
// EXEC PROGRAM
```

When using DD statements, concatenation is automatic for all versions of a single dataset on input. You must specify DSN=*data.set.name* without specifying a particular version. When all versions of a single dataset are concatenated, datasets are read in order from the most current version to the oldest version.

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In the following example, all versions of DAILY.TRANS are read with one open. For input with different dataset names, request concatenation explicitly. You must specify the version number of each version to be read in the DSN parameter. Specify a ddname only on the first statement.

```
* //INPUT1  DD  DSN='DAILY.TRANS',DISP=(OLD,KEEP)
```

The following example concatenates versions 1 through 4 of the DAILY.TRANS dataset and version 1 of the DAILY.DEP dataset.

```
* //INPUT1  DD  DSN='DAILY.TRANS(3)',DISP=(OLD,KEEP)
* //        DD  DSN='DAILY.TRANS(2)',DISP=(OLD,KEEP)
* //        DD  DSN='DAILY.TRANS(1)',DISP=(OLD,KEEP)
* //        DD  DSN='DAILY.TRANS(0)',DISP=(OLD,KEEP)
* //        DD  DSN='DAILY.DEP(0)'DISP=(OLD,KEEP)
// EXEC PROGRAM
```


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Processing Multiple Datasets with the Same DTF Name (Dataset Drop)

Description

BIM-EPIC allows you to open multiple datasets with the same DTF name. Each dataset is opened and closed separately, in the order in which its label is submitted.

DSN Catalog

No special entries are required.

JCL Requirements

Specify the dataset drop option for all but the last dataset defined.

For...	Use...
DLBLs	T
TLBLs	16 or D
DD statements	Automatic. Use multiple DD statements with the same ddname. This technique is not compatible with MVS.

Examples

Dataset drop is invoked for three datasets using the ddname TAPEIN for each.

```
* //TAPEIN DD DSN=PAYROLL.WEEKLY(2),DISP=(OLD,KEEP)
* //TAPEIN DD DSN=PAYROLL.WEEKLY(1),DISP=(OLD,KEEP)
* //TAPEIN DD DSN=PAYROLL.WEEKLY(0),DISP=(OLD,KEEP)
```

Dataset drop is invoked for three datasets using the DTF name TAPEIN. Option code 16 is used for all but the last dataset.

```
// TLBL TAPEIN,'FILE1',,,,,,16
// TLBL TAPEIN,'FILE2',,,,,,16
// TLBL TAPEIN,'FILE3'
```


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Running Test Jobs With Production Datasets

Description

The BIM-EPIC test job feature allows you to run test jobs with production datasets without affecting production processing. Test job names are defined by the TSTJOB configuration option. The option can include wildcard characters for greater flexibility in creating test job names. A question mark (?) specifies that any character in that position is a valid character. An asterisk (*) specifies that all characters in that position and any following are valid.

All controlled dataset versions created using test jobs are recorded in the DSN Catalog with a conditionally cataloged status. Only conditionally cataloged versions can be accessed by subsequent test job executions. Production jobs will not use the conditionally cataloged versions. These conditionally cataloged versions are retained until the next day, when they become eligible for scratch. If you use Online Manager or TSIDMNT to close a conditionally cataloged version during that time, the conditionally cataloged version becomes active version 1. This new version can be accessed by production jobs and is maintained according to its EDD retention criteria.

DSN Catalog

No special entries are required.

JCL Requirements

To test a single dataset, specify a conditional catalog option on its label.

For...	Use...
DLBLs	C
TLBLs	32
DD statements	DISP=(*xxx*,CONDCAT)

To test an entire job, specify a valid test job name on the VSE JOB statement.

Examples

If TSTJOB=A*, the test job feature is activated by any job name beginning with A.

If TSTJOB=A?AAAA, the test job feature is activated by the job names ABAAAA, AXAAAA, A1AAAA, and so on.

If TSTJOB=A?A*, the test job feature is activated by the job names ABAAAA, AXA, ACAXX, and so on.

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BIM-EPIC Utilities

This chapter describes how to use BIM-EPIC utility programs to control files processed with physical IOCS (PIOCS) instead of logical IOCS (LIOCS). In addition, this chapter presents the dataset copy and dump utilities TSIDDTD and TSIDDMP and the VSE label access subroutines TSIDGLB and TSIDPLB. See Chapter 7, “Running Jobs With BIM-EPIC,” for additional information on using these utilities.

Chapter Contents

Utility Programs

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Utility Programs

Pre-Open Processing (TSIDASS)

Description

TSIDASS processes controlled files used in programs that do not issue OPEN requests or that perform pre-open checking of assignments. You can also use TSIDASS to make assignments to SYSRDR, SYSIPT, SYSLST, and SYSPCH.

The TSIDASS functions are done with the following control statements:

- ASSGN satisfies pre-open assignment checking for tape datasets.
- OPEN opens datasets for programs which do not issue an OPEN request.
- RSTRT assists with using IBM checkpoint restart facility.
- CHECK determines if a dataset has a version.

TSIDASS must be executed immediately before the program that requires pre-open assignment checking or that does not do an OPEN. You must inhibit LUB allocation for all datasets in the TSIDASS step using the appropriate option codes on the TLBL statements and DLBL statements in the step.

Note:
Pre-open assignment checking can also be satisfied with the DD parameter OPTION=SYS*nnn*. In that case, TSIDASS is not required.

JCL Requirements

The following is an example of the JCL requirements.

```
dataset labels
// EXEC TSIDASS
control statements
/*
// EXEC <program without an open or that does pre-open assignment checking>
```

When using TSIDASS, place the labels for all datasets *before* the EXEC statement. Do not place any labels between the EXEC statement for TSIDASS and the EXEC statement for your program.

UPSI Values

There are no UPSI values.

ASSGN Statements

Use the ASSGN function for tape datasets only. This satisfies pre-open assignment checking by assigning a logical unit to a dummy tape device.

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When the program issues an OPEN request for the dataset, BIM-EPIC then performs a normal device assignment to the real device.

You can also use ASSGN to make assignments to the system logical units SYSRDR, SYSIPT, SYSLST, and SYSPCH. When you make these assignments, you must submit these statements last. TSIDASS stops processing control statements after one of these assignments is made.

For sort programs, use TSIDSRT to perform the assign function instead of TSIDASS, if pre-open or assignment processing is required. However, most SORT products do not require this. See Chapter 7, “Sort Programs,” for additional information and JCL examples.

When making an assignment to a system logical unit, you must supply a dataset label for the IJSYSIN, IJSYSLS, or IJSYSPH DTF name. If a SYSPCH or SYSLST dataset is created on tape, you must place the dataset in closed status before you can use the dataset as input. Use TSIDMNT CLOSE to close the dataset after it is created.

To simplify the JCL necessary to process the system files SYSIPT, SYSLIST and SYSPCH, use the Generic Device Independence for Unit Record (GDIUR) feature. The GDIUR feature eliminates the need for extra TSIDASS execution, VSE CLOSE statements, and most of the TSIDMNT CLOSE actions. GDIUR also protects your default system file assignments in case the job terminates abnormally. See Chapter 7 “BIM-EPIC Utilities,” for additional information on using GDIUR.

Syntax

The following is an example of the assng statement syntax.

```
ASSGN SYSxxx
```

Example

The following example shows how the program BILLING uses SYS021 for TAPIN1 and SYS022 for TAPOUT. TSIDASS makes the assignment for both of these files before the BILLING program executes. The TLBL option code 64 inhibits LUB allocation.

```
// JOB MAKE ASSIGNMENT WITH TSIDASS
// TLBL TAPIN1,'DAILY.TRANS',,,,,,64
// TLBL TAPOUT,'DAILY.BILLING',,,,,,64
// EXEC TSIDASS
 ASSGN SYS021
 ASSGN SYS022
/*
// EXEC BILLING
/&
```

OPEN Statements

Use TSIDASS OPEN when processing controlled datasets with a program that does not issue OPEN requests. TSIDASS OPEN issues a logical open for the dataset so that BIM-EPIC can gain control of the dataset.

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Syntax

The following is an example of an OPEN statement syntax.

```
OPEN dtfname,SYSxxx {,INPUT|,OUTPUT}
```

Parameters

The following provides a description of the parameters you can use with an OPEN statement.

Parameter	Required?	Valid Entry	Default
dtfname	Yes	1 to 7 characters	None
SYSxxx	Yes	000-254	None
Specify one of the following two (required):			
INPUT	No	None	None
OUTPUT	No	None	None

Definitions

The following provides definitions for the parameters you can use with OPEN.

Parameter	Definition
dtfname	Identifies the dataset to be opened. Use the DTF name or DD name as it appears on the label statement.
SYS*xxx*	Specifies the logical unit to assign.
INPUT	Specifies that the dataset is to be opened as input.
OUTPUT	Specifies that the dataset is to be opened as output.

Example

In the following example, TSIDASS issues an OPEN for the AP.DAILY.TRANS dataset. LUB allocation is inhibited for that dataset.

```
// JOB OPEN TAPE DATASET
// TLBL TAPEIN,'AP.DAILY.TRANS',,,,,,64
// EXEC TSIDASS
 OPEN TAPEIN,SYS020,OUTPUT
/*
// EXEC PROGRAM
/&
```

RSTRT Statements

The TSIDASS RSTRT function is used to restart a cancelled job. Like OPEN, TSIDASS RSTRT issues a logical open for named datasets, allowing BIM-EPIC to maintain control of the datasets. TSIDASS RSTRT also allows BIM-EPIC to do Automatic Volume Recognition (AVR) processing and to assign tape drives. See Chapter 7, “Restarting From a Checkpoint,” for restart procedures and for a JCL example.

LUB allocation must be inhibited for all restarted datasets. In addition, the same SYS number that was in use when the checkpoint was taken must be specified.

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Syntax

The following is an example of an RSTRT statement syntax.

```
RSTRT dtfname,SYSxxx{,INPUT|,OUTPUT}[ ,EXT=nn]
```

Parameters

The following provides a description of the parameters you can use with an RSTRT statement.

Parameter	Required?	Valid	Default
dtfname	Yes	1 to 7 characters	None
SYS*xxx*	Yes	000-254	None
Specify one of the following two (required):			
INPUT	No	None	None
OUTPUT	No	None	None
EXT	No	1 to 255	1

Definitions

The following provides definitions for the parameters you can use with an RSTRT statement.

Parameter	Definition
dtfname	Identifies the dataset to be opened. Use the DTF name or DD name as it appears on the label statement.
SYS*xxx*	Specifies the logical unit to assign. It must be the same logical unit number that was in use when the checkpoint was taken.
INPUT	Specifies that the dataset was last opened as input.
OUTPUT	Specifies that the dataset was last opened as output.
EXT	Specifies the sequence number of the extent to be re-opened. This is necessary only for disk datasets and only if the dataset is to be opened at an extent other than the primary extent. This number will be equal to the number of BIM-EPIC EP053 messages that were issued for the dataset prior to the checkpoint from which the program will be restarted.

CHECK Statements

Use TSIDASS CHECK to determine if a specific version of a dataset exists in the BIM-EPIC Catalog, or if a particular "Start Track 1" dataset exits.

Syntax

The following is an example of an RSTRT statement syntax.

```
CHECK dtfname
```


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CHECK Parameter

The following provides a description of the parameters you can use with a CHECK statement.

Parameter	Required?	Valid	Default
dtfname	Yes	1 to 7 characters	None

Definitions

The following provides definitions for the parameters you can use with a CHECK statement.

Parameter	Definition
dtfname	*dtfname* identifies the dataset to be opened. *dtfname* specifies the DLBL, TLBL, or DD statement that identifies the Dataset Version or Start Track 1 DSN to be checked. The DLBL or TLBL can be in the TSIDASS JCL or it can be in Standard Labels. The DD statement must be in the TSIDASS JCL. If a CHECK statement is present, there can be only one of them in a TSIDASS step. No other TSIDASS control statements can be present. At completion, TSIDASS will display one of the following return codes on the VSE console. 0—The version is in the BIM-EPIC Catalog, or if a Start Track 1 DLBL/EXTENT was provided, exists as a Start Track 1 dataset. 8—The version is not in the BIM-EPIC Catalog, or if a Start Track 1 DLBL/EXTENT was provided, does not exist as Start Track 1 dataset. 16—BIM-EPIC is not active.

Examples

The following example determines if Start Track 1 PRODUCT.ID.MASTER exists.

```
// DLBL FILEIN,'PRODUCT.ID.MASTER'
// EXTENT SYS010,CKDP16,,,1,10
// EXEC TSIDASS
CHECK FILEIN
/*
```

The following example determines if version 1 of PRODUCT.ID.MASTER exists.

```
// DLBL FILEIN,'PRODUCT.ID.MASTER'
// EXEC TSIDASS
CHECK FILEIN
/*
```

The following example determines if version 5 of PRODUCT.ID.MASTER exists.

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```
// TLBL FILEIN,'PRODUCT.ID.MASTER',,,,,5
// EXEC TSIDASS
CHECK FILEIN
/*
```


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Sort Interface (TSIDSRT)

Description

TSIDSRT is an interface program between BIM EPIC and your sort program. TSIDSRT solves problems that can occur with some SORT utility programs during both open and close. TSIDSRT calls your sort program to do the sort, but allows BIM EPIC to satisfy pre-open assignment checking, to truncate the SORTOUT file, and to close and delete SORTWK areas. TSIDSRT provides full support for the BIM-EPIC Generic Device Independent (GDI) features and reblocking features.

TSIDSRT is usually not required for SYNCSORT and DFSORT.

When using TSIDSRT, if you use unlabeled tape datasets in your sort, the datasets must be controlled. In addition, you can use only one SORTOUT dataset.

See Chapter 7, “Sorting with BIM-EPIC,” for additional information and for JCL examples.

Configuration Options

GDI=YES must be specified as a configuration option.

JCL Requirements

The following is an example of the JCL requirements.

```
// <labels for sort datasets>
// EXEC TSIDSRT
sort control statements
/*
```

UPSI Values

There are no UPSI values.

Dataset Requirements

You must supply labels for the datasets required by your sort program.

Control Statements

You must supply the control statements required for your sort program.

Example

The following is an example of TSIDSRT.

```
// JOB EXECUTE SORT
// TLBL SORTIN1,'DAILY.TRANS',,,,,2
// TLBL SORTOUT,'SORTED.DAILY.TRANS',,,,,,1
// DLBL SORTWK1,'$$$.SORTWK1,(D)'
// EXEC TSIDSRT
 SORT FIELDS=(33,4,A),FORMAT=BI,WORK=1,FILES=1
```


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```
 RECORD TYPE=F,LENGTH=80
 INPFIL BLKSIZE=1600
 OUTFIL BLKSIZE=4000
 END
/*
/&
```


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Deleting Datasets (TSIDDEL)

Description

TSIDDEL deletes disk work datasets that are not closed by the same program that opens them. At any point in the job or job step, TSIDDEL can be used to free up disk space for other processing. These datasets can be either Start Track 1 or cataloged work datasets. Deletion of generation disk datasets is not supported.

TSIDDEL is available as a batch program and as a callable subroutine. When using a DLBL, specify the DLBL option code D. When using a BIM-EPIC DD statement, specify DISP=(NEW,DELETE).

If you are already using TSIDSRT as the interface to your sort program, TSIDDEL execution is not necessary.

JCL Requirements

The following is an example of the JCL requirements.

```
// EXEC TSIDDEL
[ control statements ]
/*
```

UPSI Values

There are no UPSI values.

Dataset Requirements

The datasets must have been created in the step immediately prior to the TSIDDEL step. There cannot be any label statements between the EXEC statement for the program in the preceding step and the EXEC statement for TSIDDEL.

Control Statements

Control statements specify which datasets to delete. Each control statement specifies one dataset to delete. You can submit as many control statements as you want for each TSIDDEL execution. Control statements must begin in column 1.

Syntax

The following is an example of a TSIDDEL command syntax.

dtfname

Parameter

The following provides a description of the parameters you can use with a TSIDDEL statement.

Parameter	Required?	Valid	Default
dtfname	Yes	1 to 7 characters	None

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Definitions

The following provides definitions for the parameters you can use with a TSIDDEL statement.

Parameter	Definition
dtfname	Specifies the DTF name or DD name of the dataset to be deleted.

Example

The following example creates the SORTWK1 dataset in the first step. Option code D is included on the DLBL to qualify the dataset for deletion. In the second step, TSIDDEL deletes the SORTWK1 file and frees the space it occupied. The TSIDDEL step is required only if the sort program being used does not issue a close for SORTWK1. Most sort products issue a close.

```
.
.
// DLBL SORTWK1,.SORTWK1,(D)'
// EXTENT SYS003
// EXEC SORT
[sort control statements]
/*
// EXEC TSIDDEL
SORTWK1
/*
.
.
```

Using TSIDDEL as a Subroutine

When you use TSIDDEL as a subroutine, you must provide a parameter list to specify which file to delete. In the parameter list, place the DTF name or DD name as appears on the dataset label statement. You can delete only one file per call.

Control is passed to the subroutine using standard IBM linkage conventions. TSIDDEL does not provide any return codes or issue any messages.

Assembler Example

The following example is written in Assembler.

```
...
       CALL TSIDDEL,(FILEID)
...
FILEID DC   CL7'SORTWK1'
...
```

COBOL Example

The following example is written in COBOL.

```
...
WORKING-STORAGE SECTION.
10 FILEID PIC X(7) VALUE 'SORTWK1'.
...
PROCEDURE DIVISION.
...
CALL 'TSIDDEL' USING FILEID.
...
```


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Copying and Merging Datasets (TSIDDTD)

Description

TSIDDTD is a dataset-to-dataset copy/merge utility program. You can use TSIDDTD to copy a single dataset or to merge multiple input datasets into a single output dataset. TSIDDTD uses standard LIOCS access methods enabling BIM-EPIC to completely control the input and output datasets.

TSIDDTD supports any sequential dataset with a fixed, variable, spanned, or undefined record format. However, TSIDDTD can only process tape datasets that follow the standard LIOCS format conventions. See “Tape Formats Supported,” for additional information.

TSIDDTD performs one copy operation per execution. To copy a multi-file tape, execute TSIDDTD once for every dataset on the tape. You must include input and output labels for each dataset.

Configuration Options

To use TSIDDTD for disk datasets, the GDI=YES configuration option must be specified.

JCL Requirements

The following is an example of the JCL requirements.

```
input dataset label(s)
output dataset label
// EXEC TSIDDTD
[optional control statements ]
/*
```

UPSI Values

There are no UPSI values.

Dataset Requirements

You must submit a label for one output dataset and at least one input dataset. The default DTF names are INPUT and OUTPUT, but you can specify the use of other DTF names in your control statements.

The output dataset block size will be the same as the input dataset block size unless you specify a new block size in the output dataset definition. Uncontrolled disk datasets can be reblocked using option code B=*n* on the DLBL statement.

When copying uncontrolled datasets, use SYS005 for output dataset and SYS004 for input dataset.

If more than one input dataset is copied to the output dataset, specify option code T for every input dataset label except the last dataset label. Using option code T, you can merge tape and disk versions into a single dataset. If all input is on the same device type, you can also use the BIM-EPIC DD statement concatenation feature.

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Tape Formats Supported

Because TSIDDTD uses standard LIOCS access methods, TSIDDTD can only process tapes which follow standard LIOCS format conventions.

For a labeled tape, the format is:

```
VOL and HDR labels, tapemark, data, tapemark, EOV or EOF
labels, tapemark[tapemark]
```

An unlabeled tape, the format is:

```
[tapemark], data, tapemark
```

Some utility programs, which appear to use LIOCS when writing standard label tapes, actually use PIOCS and imbed additional tape marks in the data area. Utilities known to imbed additional tape marks are IDCAMS BACKUP and LIBR BACKUP. There may be others. When LIOCS encounters one of these additional tape marks on input, it issues the message “4130D EOF OR EOV INQUIRY?” because no EOV/EOF label was found immediately following that tape mark. Therefore, if the 4130D message occurs while copying a file, the message indicates that the tape format does *not* follow standard LIOCS conventions and *cannot* be copied successfully using TSIDDTD.

Unfortunately, there is no method currently available to copy tapes which use non-standard formats. Using DITTO is not recommended because it will result in two or more volumes that have the same volume serial number. The best solution is to execute the program which created the original volume(s) a second time to create a second version.

Control Statements

Control statements are used to define dataset characteristics and to specify TSIDDTD processing options.

For controlled datasets, control statements are not necessary under normal conditions. TSIDDTD will get the record type, record size, and block size from the version record in the DSN Catalog.

For uncontrolled and Start Track 1 datasets, control statements specifying the record type, record size, and block size are required.

The TSIDDTD maximum block size for tape is 32K on VSE releases prior to ESA 2.5 and 64K for ESA 2.5 and above. A block size greater than 32K is supported for disk. For uncontrolled labeled input tapes, TSIDDTD uses HDR2 information. If record type, record size, and block size are not specified and cannot be obtained from the DSN Catalog, TSIDDTD defaults to an undefined record format with a block size of 32767. Record type, record size, and block size may not be in the catalog for some controlled datasets that were created by programs that use PIOCS.

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You can use control statement parameters to:

- Specify alternate DTF names
- Specify record characteristics
- Control unlabeled tape processing
- Limit total output
- Select specific records
- End processing before end-of-file (EOF) is reached on input

All control statements will be processed before TSIDDTD begins the copy or merge operation. Parameters can be placed in columns 1 through 71 and must be separated with commas. Multiple statements can be submitted. Parameters cannot be continued.

Syntax

The following is an example of a TSIDDTD command syntax.

```
[ BLKSIZE=nnnnn ]
[ FEOF=start,length,operand,type,value ]
[ HDRINFO ]
[ INNAME=dtfname ]
[ INPUT=n ]
[ LRECL=nnnnn ]
[ NOREWIN ]
[ NOREWOUT ]
[ NOTPMK ]
[ OBLKSIZE=nnnnn ]
[ OUTNAME=dtfname ]
[ RECFM=x ]
[ RUNIN ]
[ RUNOUT ]
[ RECS=nnnnnn ]
[ SEL=start,length,operand,type,value ]
[ SKIP=nnnnnn ]
[ UNLBLIN ]
[ UNLBLOUT ]
```

Control Statement Parameters

The following provides a description of the control statement parameters you can use with the TSIDDTD control statement.

Parameter	Required?	Valid	Default
BLKSIZE	No	1 to 32767 (or greater for disk)	See explanation below
FEOF	No	See subparameters	None
Specify one of the following:			
start	No	1 to 999999	None
length	No	1 to 999999	None
operand	No	EQ|NE|GT|LT|GE|LE	None
type	No	C or X	C

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Parameter	Required?	Valid	Default
value	No	See text	None
HDRINFO	No	None	OFF
INNAME	No	1 to 7 characters	INPUT
INPUT	No	'?' or 1 to 32767	None
LRECL	No	1 to 99999	None
NOREWIN/NOREWOUT	No	None	OFF
NOTPMK	No	None	OFF
OBLKSIZE	No	1 to 32767	Input BLKSIZE
OUTNAME	No	1 to 7 characters	OUTPUT
RECFM	No	F|V|S|U	EDD information in catalog or U
RECS	No	1 to 999999	All
RUNIN/RUNOUT	No	None	OFF
SEL	No	See FEOF	All
SKIP	No	1 to 999999	0
UNLBLIN/UNLBLOUT	No	None	OFF

Definitions

The following provides definitions for the parameters you can use with a TSIDDEL statement.

Parameter	Definition
BLKSIZE	Defines the block size for input datasets. If BLKSIZE is not specified, it will be set to one of the following: ■ The value of LRECL. ■ Undefined (if LRECL is not specified) - input dataset is treated as unblocked For controlled datasets, the version block size for input datasets and the EDD reblock size for output datasets are used, if available.

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<table>
<tr><th>Parameter</th><th colspan="3">Definition</th></tr>
<tr><td>FEOF</td><td colspan="3">Specifies a condition that causes TSIDDTD to act as if EOF was reached on input. If multiple parameters are specified on a single control statement, only another FEOF parameter may follow an FEOF parameter. When any one of multiple FEOF conditions is met, EOF will be assumed. Up to a total of 20 FEOF parameters can be submitted per TSIDDTD execution.
When FEOF is specified, all FEOF subparameters are required and positional.</td></tr>
<tr><td></td><td colspan="3">FEOF Subparameters:</td></tr>
<tr><td></td><td>start</td><td colspan="2">Specifies the starting position in the record, relative to 1, of the field to be tested.</td></tr>
<tr><td></td><td>length</td><td colspan="2">Specifies the length of the field to be tested.</td></tr>
<tr><td></td><td rowspan="8">length operand</td><td colspan="2">Specifies the type of test.</td></tr>
<tr><td></td><td>Use...</td><td>To specify that the input data is ...</td></tr>
<tr><td></td><td>EQ</td><td>equal to value</td></tr>
<tr><td></td><td>NE</td><td>not equal to value</td></tr>
<tr><td></td><td>GT</td><td>greater than value</td></tr>
<tr><td></td><td>LT</td><td>Less than value</td></tr>
<tr><td></td><td>GE</td><td>greater than or equal to value</td></tr>
<tr><td></td><td>LE</td><td>less than or equal to value</td></tr>
<tr><td></td><td>type</td><td colspan="2">Specifies the type of data to use in the test. Data type C indicates that the value is in character format. Data type X indicates that the value is in hexadecimal format.</td></tr>
<tr><td></td><td>value</td><td colspan="2">Specifies the constant to use in the test. Specify the same number of characters as the length value for character comparisons or two times that number for hexadecimal comparisons.</td></tr>
<tr><td>HDRINFO</td><td colspan="3">Causes VSE to display the tape header information on the operator console when opening the input datasets.</td></tr>
</table>

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<table>
<tr><th>Parameter</th><th>Definition</th></tr>
<tr><td>INNAME</td><td>Specifies an alternate input DTF name.</td></tr>
<tr><td>INPUT</td><td>Specifies the number of input datasets to merge into a single output. If the value ? is specified, for example, INPUT=?, the message EP712 will be issued. This message requires the operator to respond with the number of files to merged.</td></tr>
<tr><td>LRECL</td><td>Defines the dataset record size. For catalog-controlled datasets, the LRECL in the DSN Catalog is used if available. If LRECL is not specified, it will be set to one of the following values:
The value of BLKSIZE.
Undefined, if BLKSIZE is not specified. The input dataset is treated as unblocked.</td></tr>
<tr><td>LRECL
NOREWIN</td><td>Prevents rewinding of input tape at close.</td></tr>
<tr><td>NOREWOUT</td><td>Prevents rewinding of the output tape at close.</td></tr>
<tr><td>NOTPMK</td><td>Suppresses the leading tape marks normally written before the data on unlabeled output tapes.</td></tr>
<tr><td>OBLKSIZE</td><td>Defines the block size for the output dataset. If OBLKSIZE is not specified, the BLKSIZE value will be used.</td></tr>
<tr><td>OUTNAME</td><td>Specifies an alternate output DTF name.</td></tr>
<tr><td>RECFM</td><td>Specifies the record format of both input and output datasets:<table><tr><th>Code</th><th>Record Format</th></tr><tr><td>F</td><td>fixed length</td></tr><tr><td>V</td><td>variable length</td></tr><tr><td>S</td><td>spanned</td></tr><tr><td>U</td><td>undefined</td></tr></table></td></tr>
<tr><td>RECS</td><td>Specifies the number of records to be copied.</td></tr>
<tr><td>RUNIN</td><td>Unloads input tape at close.</td></tr>
<tr><td>RUNOUT</td><td>Unloads the output tape at close.</td></tr>
</table>

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Parameter	Definition
SEL	Specifies selection criteria for copying. Subparameters are identical to FEOF subparameters. If the data matches the expression, the data is copied. If the data does not match the expression, the data is skipped. If multiple parameters are specified on a single control statement, only another SEL parameter may follow a SEL parameter. When any SEL condition is met, the data is copied. A maximum of 20 SEL parameters can be submitted per TSIDDTD execution. If no SEL parameters are specified, all data is copied. When SEL is specified, all SEL subparameters are required.
SKIP	Specifies the number of records to skip before beginning the copy operation.
UNLBLIN	Defines the input as an unlabeled uncontrolled tape dataset. UNLBLIN is not required if the dataset is controlled.
UNLBLOUT	Defines the output as an unlabeled uncontrolled tape dataset. UNLBLOUT is not required if the dataset is controlled.

Examples

The following example copies a controlled disk dataset to a controlled tape dataset. TSIDDTD control statements are not required.

```
// JOB TSIDDTD COPY DISK TO TAPE
// DLBL INPUT,'input.data.set'
// TLBL OUTPUT,'output.data.set'
// EXEC TSIDDTD
/*
/&
```

The following example merges two input disk datasets and two input tape datasets into a single output tape dataset. All of the datasets are controlled. This example uses option code T (Drop) on the DLBL statements. Use option code 16 (Drop) and option code 2 (Rewind) on the TLBL statements.

```
// JOB TSIDDTD MERGE 2 DISK AND 2 TAPE DATASETS TO A SINGLE
OUTPUT
// DLBL INPUT,'input.data.set.1,(T)'
// DLBL INPUT,'input.data.set.2,(T)'
// TLBL INPUT,'input.data.set.3',,,,,,18
// TLBL INPUT,'input.data.set.4',,,,,,2
// TLBL OUTPUT,'output.data.set'
// EXEC TSIDDTD
INPUT=4
/*
/&
```


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The following example makes a duplicate copy of a multi-file tape containing three datasets. All of the datasets are controlled, so no control statements are necessary. TSIDDTD is executed three times, once for each dataset.

In this example, use TLBL option 64 (Inhibit LUB allocation), option code 8 (Hold assignment), and option code 3 (No rewind) on the first two TLBL statements. Use option code 64 (Inhibit LUB allocation) and option code 2 (Unload) on the last TLBL statement.

```
// JOB TSIDDTD  COPY MULTI-FILE TAPE
// TLBL INPUT,'input.prime.dsn',,,,,,75
// TLBL OUTPUT,'output.prime.dsn',,,,,,75
// EXEC TSIDDTD
/*
// TLBL INPUT,'input.sub.dsn.1',,,,,,75
// TLBL OUTPUT,'output.sub.dsn.1',,,,,,75
// EXEC TSIDDTD
/*
// TLBL INPUT,'input.sub.dsn.2',,,,,,66
// TLBL OUTPUT,'output.sub.dsn.2',,,,,,66
// EXEC TSIDDTD
/*
/&
```

The following example copies a Start Track 1 disk dataset to an output dataset using alternate DTF names, selecting only those records with the constant TAC in position 1 through position 3 or any data except low-values in position 4 through position 6. The record format, record size, and block size information are required for Start Track 1 datasets.

```
// JOB TSIDDTD  CREATE NEWFIL
// DLBL OLDFIL,'input.data.set'
// EXTENT SYS005,POOL01,1,0,1,300
// TLBL NEWFIL,'output.data.set'
// EXEC TSIDDTD
INNAME=OLDFIL,OUTNAME=NEWFIL
RECFM=F,BLKSIZE=4000,LRECL=80
SEL=1,3,EQ,C,TAC
SEL=4,3,NE,X,000000
/*
/&
```


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Printing Datasets (TSIDDMP)

Description

TSIDDMP is a dataset print utility program. You can use TSIDDMP to completely or selectively print a dataset in hex or character format. TSIDDMP will also print report files that have been written to disk or tape. TSIDDMP uses standard LIOCS access methods enabling BIM-EPIC to easily control the input datasets.

TSIDDMP supports any sequential dataset with a fixed, variable, spanned, or undefined record format. However, TSIDDMP can only process tape datasets that follow the standard LIOCS format conventions. See “Tape Formats Supported” for additional information.

TSIDDMP performs one print operation per execution.

Configuration Options

To use TSIDDMP for disk datasets, you must specify the GDI=YES configuration option.

JCL Requirements

The following are JCL requirements for TSIDDMP.

```
input dataset label
// EXEC TSIDDMP
[ control statements ]
/*
```

UPSI Values

There are no UPSI values.

Dataset Requirements

You must submit a label for the input dataset. The default DTF name is INPUT. An alternate DTF name can be specified in your control statements.

For uncontrolled tape datasets, use SYS004 for the input dataset.

Control Statements

Use control statements to define dataset characteristics and to specify TSIDDMP processing options.

Control statements are not required for controlled datasets. TSIDDMP will get the record type, record size, and block size from the DSN Catalog.

Control statements are required for uncontrolled and Start Track 1 datasets. These control statements must specify the record type, record size, and block size.

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If record type, record size, and block size are not specified and cannot be obtained from the DSN Catalog, TSIDDMP will use an undefined record format with a block size of 32767.

Note:
Record type, record size, and block size may not be available in the catalog for some catalog-controlled datasets if they were created by programs that use PIOCS.

You can use control statements to limit total output, select specific records, and end processing before end-of-file (EOF) is reached on input. Several formatting options are also provided.

All control statements will be processed before TSIDDMP begins the print operation. Parameters can be placed in columns 1 through 71 and must be separated with commas. Multiple statements can be submitted. Parameters cannot be continued.

Syntax

The following is an example of a command syntax for printing a dataset.

```
[ BLKSIZE=nnnnn ]
[ CHARONLY ]
[ CTLCHAR ]
[ FEOF=start,length,operand,type,value ]
[ HDRINFO ]
[ INNAME=dtfname ]
[ LRECL=nnnnn ]
[ NOREW ]
[ NOSCALE ]
[ RECFM=x ]
[ RECS=nnnnnn ]
[ RUN ]
[ SEL=start,length,operand,type,value ]
[ SKIP=nnnnnn]
[ UNLBL ]
```

Parameters

The following provides a description of the parameters you can use when printing a dataset.

Parameter	Required?	Valid.7	Default
BLKSIZE	No	1 to 99999	See text
CHARONLY	No	None	OFF
CTLCHAR	No	None	OFF
FEOF	No	See subparameters	None
Select one of the following:			
start	No	1 to 999999	None
length	No	1 to 999999	None
operand	No	EQ|NE|GT|LT|GE|LE	None

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Parameter	Required?	Valid.7	Default
t*ype*	No	C or X	C
value	No	See text	None
HDRINFO	No	None	OFF
INNAME	No	1 to 7 characters	INPUT
LRECL	No	1 to 32767	None
NOREW	No	None	OFF
NOSCALE	No	None	OFF
RECFM	No	F|V|S|U	U
RECS	No	0 or 1 to 999999	All
RUN	No	None	OFF
SEL	No	See FEOF	All
SKIP	No	1 to 999999	0
UNLBL	No	None	OFF

Definitions

The following provides definitions for the parameters you can use with a TSIDDEL statement.

Parameter	Definition
BLKSIZE	Defines the block size for the input dataset. If BLKSIZE is not specified, it will be set to one of the following values: ■ LRECL. ■ Undefined, if LRECL is not specified. The input dataset is treated as unblocked. For controlled datasets, the block size in the catalog will be used, if available.
CHARONLY	Specifies that only the character representation is printed. If CHARONLY is omitted, both character and hexadecimal representations are printed.
CTLCHAR	Specifies that the dataset has an ASA print control character, to control printer spacing, in the first byte of each record. Use CTLCHAR for print files that have been written to disk or tape. CTLCHAR forces CHARONLY printing and NOSCALE printing. **Note:** If CTLCHAR is used for a dataset that does not contain a valid ASA print character in the first byte of every record, TSIDDMP can cancel with an I/O error. To verify the print characters, print the file in hex mode. The first character should be one of the following characters: `space(X'40'), 0-9, A-C, +, or -`

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<table>
<tr><th>Parameter</th><th colspan="3">Definition</th></tr>
<tr><td rowspan="14">FEOF</td><td colspan="3">Specifies a condition that causes TSIDDMP to act as if EOF was reached on input. If multiple parameters are specified on a single control statement, only another FEOF parameter may follow an FEOF parameter. When any one of multiple FEOF conditions is met, EOF will be assumed. Up to a total of 20 FEOF parameters can be submitted per TSIDDMP execution.

When FEOF is specified, all FEOF subparameters are required and positional.</td></tr>
<tr><td colspan="3">FEOF Subparameters:</td></tr>
<tr><td>start</td><td colspan="2">Specifies the starting position in the record, relative to 1, of the field to be tested.</td></tr>
<tr><td>length</td><td colspan="2">Specifies the length of the field to be tested.</td></tr>
<tr><td>length operand</td><td colspan="2">Specifies the type of test.</td></tr>
<tr><td rowspan="7"></td><td>Use...</td><td>To specify that the input data is ...</td></tr>
<tr><td>EQ</td><td>equal to value</td></tr>
<tr><td>NE</td><td>not equal to value</td></tr>
<tr><td>GT</td><td>greater than value</td></tr>
<tr><td>LT</td><td>Less than value</td></tr>
<tr><td>GE</td><td>greater than or equal to value</td></tr>
<tr><td>LE</td><td>less than or equal to value</td></tr>
<tr><td>type</td><td colspan="2">Specifies the type of data to use in the test. Data type C indicates that the value is in character format. Data type X indicates that the value is in hexadecimal format.</td></tr>
<tr><td>value</td><td colspan="2">Specifies the constant to use in the test. Specify the same number of characters as the length value for character comparisons or two times that number for hexadecimal comparisons.</td></tr>
<tr><td>HDRINFO</td><td colspan="3">Causes VSE to display the tape header information on the operator console when opening the input datasets.</td></tr>
</table>

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<table>
<tr><th>Parameter</th><th>Definition</th></tr>
<tr><td>INNAME</td><td>Specifies an alternate input DTF name.</td></tr>
<tr><td>LRECL</td><td>Defines the dataset record size. For catalog-controlled datasets, the LRECL in the DSN Catalog is used, if available. If LRECL is not specified, it will be set to one of the following values:
The value of BLKSIZE.
Undefined, if BLKSIZE is not specified. In this case, the input dataset is treated as unblocked.</td></tr>
<tr><td>NOREW</td><td>Prevents rewind of the input tape at close.</td></tr>
<tr><td>NOSCALE</td><td>Suppresses the printing of the position scale, which normally appears under the print record.</td></tr>
<tr><td>RECFM</td><td>Specifies the record format of both input and output datasets:<table><tr><th></th><th>Code</th><th>Record Format</th></tr><tr><td></td><td>F</td><td>fixed length</td></tr><tr><td></td><td>V</td><td>variable length</td></tr><tr><td></td><td>S</td><td>spanned</td></tr><tr><td></td><td>U</td><td>undefined</td></tr></table></td></tr>
<tr><td>RECS</td><td>Specifies the number of records to be printed. If the value zero is specified, the input dataset version is opened and closed without attempting to read any records.</td></tr>
<tr><td>RUN</td><td>Unloads input tape at close.</td></tr>
<tr><td>SEL</td><td>Specifies selection criteria for printing records. SEL subparameters are identical to FEOF subparameters. If the data matches the expression, the record is dumped or printed. If the data does not match, the record is skipped. If multiple parameters are specified on a single control statement, only another SEL parameter may follow a SEL parameter. When any one of multiple SEL conditions is met, the record will be printed. A maximum of 20 SEL parameters can be submitted per TSIDDMP execution. If no SEL parameters are submitted, all data is printed.

When SEL is specified, all SEL subparameters are required.</td></tr>
<tr><td>SKIP</td><td>Specifies the number of records to skip before beginning the print operation.</td></tr>
<tr><td>UNLBL</td><td>Defines the input as an unlabeled, uncontrolled tape dataset. UNLBL is not required if the dataset is controlled.</td></tr>
</table>

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Examples

The following example prints the entire contents of a catalog-controlled disk dataset in hex format. Control statements are not required.

```
// JOB TSIDDMP  DUMP DISK DATASET IN HEX
// DLBL INPUT,'input.data.set'
// EXEC TSIDDMP
/*
/&
```

The following example prints the first 100 records of a file. The printout will be in character format (CTLCHAR forces CHARONLY).

```
// JOB TSIDDMP  PRINT BLOCKED REPORT TAPE IN CHARACTER FORMAT
// TLBL INPUT,'input.data.set'
// EXEC TSIDDMP
CTLCHAR,RECS=100
/*
/&
```

The following example prints a Start Track 1 disk dataset using an alternate DTF name, in character-only format, with the position scale suppressed. Only records containing the characters 10794 in positions 1 through 5 will be selected. End of file and end of job will be forced as soon as high values are found in positions 7 through 9. The record format, record size, and block size information are required for an uncataloged disk dataset.

```
// JOB TSIDDMP  SELECTIVE DUMP OF ST 1 FILE
// DLBL TPDATA,'input.data.set'
// EXTENT SYS005,POOL01,1,0,1,300
// EXEC TSIDDMP
INNAME=TPDATA
RECFM=F,BLKSIZE=4000,LRECL=80
CHARONLY,NOSCALE
SEL=1,5,EQ,C,10794
FEOF=7,3,EQ,X,FFFFFF
/*
/&
```


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Accessing the VSE Label Area (TSIDGLB and TSIDPLB)

Description

TSIDGLB and TSIDPLB are subroutines that read and write VSE labels in the VSE Label areas. TSIDGLB reads system-standard, partition-standard, and partition user labels.

TSIDPLB modifies the label that TSIDGLB acquired. TSIDPLB writes the label to an area BIM-EPIC maintains. When BIM-EPIC is active, TSIDPLB checks for the label in this area before searching the VSE label area.

Using the Subroutines

You can call both subroutines at any time, before or after a dataset is opened or closed. Both subroutines are called using standard IBM linkage conventions.

You can read and modify the label of any dataset defined in your JCL. However, tape dataset names are restricted to 17 characters. If you want to create a new label, first read a TLBL or DLBL that has no parameters except the DTF name.

A sample assembler program, TSIGLBL.A, and a sample COBOL program, TSIGLBL.C, are provided as examples in the BIM-EPIC installation library. These programs can be assembled or compiled to demonstrate the coding techniques required to process VSE labels.

Data Area

Use the assembler copybook, TSIDGLB.A, or the COBOL copybook, TSIDGLB.C, for both subroutines. The following descriptions refer to the data names in the assembler copybook.

Specify FILENAME and LBLRETCD as parameter list entries in your CALL statement.

FILENAME contains the DTF name of the label to be processed. The same DTF name must be specified in a JCL DLBL, TLBL, or DD statement.

Both subroutines return a 1-byte binary value in LBLRETCD. A zero indicates that the label was returned by TSIDGLB or written by TSIDPLB. Any non-zero value indicates the label was not found or was not written.

In LBLLEN, TSIDGLB returns a 2-byte, unaligned, binary field that contains the length of the label returned. A length of 80 bytes indicates a tape label. Any length greater than 80 bytes indicates a disk label. TSIDPLB uses the label length from this field.

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TSIDGLB returns the label beginning at LBLFILNM. TSIDPLB writes the label from the same area.

To read a label:

Step	Action
1	Move the DTF name of the label to be processed to FILENAME.
2	Call TSIDGLB, specifying FILENAME and LBLRETCD.

The following is an example of TSIDGLB.

```
...
MVC FILENAME,=CL7'INPFILE'
CALL TSIDGLB,(FILENAME,LBLRETCD)
...
COPY TSIDGLB
...
```

To write a label:

Step	Action
1	Read the label using the TSIDGLB procedure.
2	Modify the label information (see the warning below).
3	Move the DTF name of the label to be processed to FILENAME.
4	Move the length of the label to LBLLEN (80 for tape, 200 for disk).
5	Call TSIDPLB, specifying FILENAME and LBLRETCD.

WARNING:
TSIDPLB does not validate the data on the label you write. Therefore, you must ensure that the data is correct. Although the label can be written successfully, results are unpredictable if the data is incorrect.

The following is an example of TSIDPLB.

```
...
MVC  FILENAME,=CL7'OUTFILE'
MVC  LBLLEN,=H'80'
CALL TSIDPLB,(FILENAME,LBLRETCD)
...
COPY TSIDGLB
...
```


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BIM-EPIC Catalog-VTOC Reconciliation System

Description

The reconciliation system consists of two programs, TSIDCVF and TSIDCVC.

- TSIDCVF reads the catalog and the VTOCs associated with a pool and outputs two files, one for the catalog and one for the VTOC. The catalog will be enqueued while TSIDCVF runs.
- TSIDCVC compares the two files, produced by TSIDCVF, looking for discrepancies. TSIDCVC then outputs any mismatches to SYSLST. The catalog will not be enqueued while TSIDCVC runs, so it can run at any time after TSIDCVF runs.

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Selecting files to compare by pool (TSIDCVF)

Description

TSIDCVF creates two files, one contains the list of VTOC files and one contains the list of catalog files.

Syntax

The following is an example of a TSIDCVF command syntax.

```
POOL poolid
```

Definitions

The following provides the definition for the parameter you can use with a TSIDDEL statement.

Parameter	Definition
`poolid`	Specifies the name of a BIM-EPIC DASD pool. The `poolid` instructs the program to select all dataset versions in the BIM-EPIC Catalog that are in the pool specified as well as all DASD disk files that are part of the pool specified. Only BIM-EPIC controlled disk files will be selected.

Examples

The following are examples of BIM-EPIC controlled DSNs.

```
// DLBL CATOUT,'CATALOG.FILES'
// DLBL VTOCOUT,'VTOC.FILES'
// EXEC TSIDCVF
POOL POOL01
/*
```

The following are examples of BIM-EPIC Start Track 1 DSNs.

```
// DLBL CATOUT,'CATALOG.FILES'
// EXTENT SYS010,POOL01,1,0,1,90
// DLBL VTOCOUT,'VTOC.FILES'
// EXTENT SYS010,POOL01,1,0,1,90
// EXEC TSIDCVF
POOL POOL01
/*
```


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Comparing catalog to VTOC (TSIDCVC)

Description

TSIDCVC compares the two files created by TSIDCVF and creates a report showing any discrepancies.

The files must first be sorted according to the example before being used by TSIDCVC. The TSIDCVC program does not take any input cards.

Examples

The following example uses BIM-EPIC controlled DSNs. As in the above TSIDCVF example, Start Track 1 DSNs can be used if desired.

```
// DLBL SORTIN1,'CATALOG.FILES'
// DLBL SORTOUT,'CATALOG.FILES.SORTED'
// EXEC SORT
 SORT FIELDS=(46,6,CH,A,1,44,CH,A,45,1,BI,A)
 RECORD TYPE=F,LENGTH=80
 INPFIL BLKSIZE=80
 OUTFIL BLKSIZE=80
 END
/*
// DLBL SORTIN1,'VTOC.FILES'
// DLBL SORTOUT,'VTOC.FILES.SORTED'
// EXEC SORT
 SORT FIELDS=(46,6,CH,A,1,44,CH,A,45,1,BI,A)
 RECORD TYPE=F,LENGTH=80
 INPFIL BLKSIZE=80
 OUTFIL BLKSIZE=80
 END
/*
// DLBL CATINP,'CATALOG.FILES.SORTED'
// DLBL VTOCINP,'VTOC.FILES.SORTED'
// EXEC TSIDCVC
/*
```


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9

Job Management Control Language

The BIM-EPIC Job Management Control Language (JMCL) gives you greater control over the execution of your job. The JMCL facility is activated using the JCLLANG=YES configuration option as described in the *BIM-EPIC Installation and System Guide*.

Chapter Contents

Using JMCL Statements
Using JMCL Parameters
Using the JMCL Interface

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Using JMCL Statements

VSE JCL Statements

Description

The BIM-EPIC Job Management Control Language (JMCL) parameters are specified on VSE JCL statements. You can specify JMCL parameters on:

- EXEC statements
- JOB statements
- OPTION statements
- Comment statements

Most JMCL parameters are valid on only one or two of the JCL statement types. Check the description of the particular parameter to determine where the parameter can be specified.

A VSE JCL statement can contain multiple JMCL parameters in keyword format. If you specify more than one JMCL parameter on a single statement, the parameters must be separated with commas. Many JMCL parameters are interdependent. When using multiple parameters, ensure that any interdependencies that may be present do not cause different results than what you are expecting. An example of how the parameters work together can be found later in this chapter.

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Using JOB Statements

Description

When using JOB statements, EXEC statements, and OPTION statements, the JMCL parameters must follow at least one VSE keyword, or a comma between two spaces, and precede any comments.

Syntax

The following provides an example of an OPTION statement syntax.

```
// JOB jobname parameters comments
// EXEC program parameters comments
// OPTION option parameters comments
```

Example

In the following example, the job name is PAYROLL. RESET is a JMCL parameter in the correct position. CHECKS is a comment.

```
// JOB PAYROLL RESET CHECKS
```


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Using Comment Statements

Description

VSE comment statements can use special JMCL parameters to invoke JMCL. See “Using JMCL Parameters” in this chapter for additional information.

Syntax

The following is an example of a VSE command syntax.

```
* JMCL parameters
```

Example

The following is an example of a command statement with the parameters defined.

```
* JMCL NAME=BGSTEP
```


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Using JMCL Parameters

JCL Syntax Checking

Description

JMCL parameters enable you to perform the following tasks:

- Retain datasets that have been flagged for purge (HOLD)
- Cancel a job if the job exceeds a specified time limit (TIME=*n*)
- Specify special processing for restarting canceled jobs (TYPRUN=RESTART)
- Prevent some job cancellations by requesting DD statement syntax checking (TYPRUN=SCAN and TYPRUN=SCANS)

HOLD

HOLD prevents datasets that have been flagged for purge at EOJ from being purged if the job cancels before EOJ is reached.

HOLD is valid on JMCL statements and is effective for the duration of the job.

Syntax

The following is an example of a HOLD command syntax.

```
HOLD
```

TIME

TIME specifies a time limit for a job execution. If your job exceeds the specified time limit, the job will terminate without a dump and with the specified condition code CC=1.

Note:
TIME is valid on JOB statements.

WARNING:
The IBM SETIME instruction will override the TIME parameter. If this occurs, your job may not cancel as expected.

Syntax

The following is an example of a TIME command syntax.

```
TIME=nnnn
```


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Definition

The following provides definitions for the parameters you can use with TIME.

Parameter	Definition
nnnn	Specifies the time period in minutes. Valid time periods are from 1 minute to 1440 minutes. No error message occurs if a number is specified out of this range. If you specify a number greater than 1440, the time limit is set to 1440, which indicates an unlimited time execution.

Example

The following is an example of a TIME command syntax.

```
// JOB XYZ TIME=60
```

TYPRUN

TYPRUN specifies syntax checking for DD statements and special processing for job restarts.

Note:
TYPRUN is valid on JOB statements only.

Syntax

The following is an example of a TYPRUN command syntax.

```
TYPRUN={SCAN | SCANS | RESTART}
```

Definitions

The following provides definitions for the parameters you can use with TYPRUN.

Parameter	Definition
SCAN	Checks DD statement syntax and prints all JCL and any error messages. SCAN scans the JCL until the first end of job (/&) statement, after which normal processing resumes. The job is not executed. If there is SYSIPT data in your job stream you must also specify the DATA parameter. See “Condition Checking and Branching” in this chapter for additional information.
SCANS	Checks DD statement syntax and prints only DD statements in error and the resulting error messages. The job is not executed. SCANS scans the JCL until the first end of job (/&) statement, after which normal processing resumes. If there is SYSIPT data in your job stream, you must also specify the DATA parameter. See “Condition Checking and Branching” in this chapter for additional information.

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Parameter	Definition
RESTART	Restarts your job. When a job cancels, you may want to restart it at a job step other than the first step of the job. You can branch to the desired step with a JMCL GOTO parameter. However, if you have specified the JMCL parameter HOLD or configuration option PURBYP=YES, disk datasets flagged for purge are not purged when a job cancels. If you bypass steps with GOTO, work datasets created in those steps need to be specially purged. TYPRUN=RESTART purges those datasets when they are flagged for purge with the DLBL option code P option code X, or DD DISP=(*x*,DELETE).

Example

The following is an example using TYPRUN command syntax.

```
// JOB XYZ TYPRUN=SCANS
```


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Condition Checking and Branching

Description

The Condition Checking and Branching feature of JMCL allows you to bypass JCL statements without deleting them or making them comments before submitting the job.

Condition checking using the IF parameter allows you to check whether certain conditions exist before you branch to a new part of the job using GOTO.

Syntax

The following is an example of a JMCL command syntax.

```
* JMCL parameter
```

Parameters

The following provides a description of the parameters you can use when using condition checking and branching.

Parameter	Required?	Valid	Default
GOTO	No	1 to 8 characters	None
NAME	No	1 to 8 characters	None
DATA	No	1 to 127	1
SETG	No	See text	None
SET	No	See tedt	None

Definitions

The following provides definitions for the parameters you can use when using condition checking and branching.

Parameter	Definition
GOTO	Supports unconditional branching and conditional branching when used in conjunction with the JMCL IF parameter. Use GOTO for unconditional branching when restarting a job. GOTO is valid on OPTION and JMCL statements. **Note:** GOTO can only branch forward in a job.

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<table>
<tr><th>Parameter</th><th colspan="2">Definition</th></tr>
<tr><td>NAME</td><td colspan="2">Marks the destination of the GOTO branch. If you bypass SYSIPT data during the branch, you must use the DATA parameter. See IF and Conditions for additional information. For example:

GOTO=label {label | JOBEND}
If you are restarting a job, you may need to use TYPRUN=RESTART.
Note: If the step executed in the restart checks for a condition code, that condition code may be invalid at restart time.</td></tr>
<tr><td></td><td colspan="2">NAME Subparameter</td></tr>
<tr><td></td><td>label</td><td>Specifies the NAME label for the branch destination. The value must match the label specified on the NAME parameter. If you specify GOTO=JOBEND, GOTO branches to end-of-job (/&). A NAME parameter is not required. For example:
* JMCL GOTO=SORT3</td></tr>
<tr><td>DATA</td><td colspan="2">Bypasses SYSIPT data during a GOTO branch. Because SYSIPT data is uniquely processed, BIM-EPIC cannot bypass it automatically.

Place a DATA parameter on the EXEC statement of each program followed by SYSIPT data. DATA is valid only on EXEC statements. For example:

DATA [=n]</td></tr>
<tr><td></td><td colspan="2">DATA Subparameter</td></tr>
<tr><td></td><td>n</td><td>Specifies the number of SYSIPT data streams to bypass for a single EXEC. The default is one, so you only need to specify n when there is more than one data stream for the EXEC. For example:

// EXEC PAYROLL DATA
<SYSIPT data here>
/*\</td></tr>
</table>

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IF and Conditions

Description

IF tests for conditions that you specify. IF can test the current condition code, highest condition code, VSE cancel code, date, time, CPU, partition, and global constant.

You can use IF to test multiple conditions using either the AND condition or the OR condition. See “Setting Values” in this chapter for additional information.

When IF is used with GOTO, the branch occurs if the condition is true. When IF is used on an EXEC, the step is executed only if the condition is true. If the condition is false, BIM-EPIC bypasses the EXEC.

The IF parameter has three subparameters which must be separated by at least one space. To test AND conditions, specify separate sets of subparameters on the same IF parameter and separate them with commas. To test OR conditions, use separate IF parameters.

When used with GOTO, IF is valid on OPTION and JMCL statements. IF is also valid on EXEC statements, without GOTO. AND conditions are valid on OPTION, EXEC, and JMCL statements. OR conditions are valid on OPTION and JMCL statements only.

Syntax

The following provides an example of an IF statement syntax.

`IF=(`*`type operand value`* `[ ,`*`type operand value`*`, ... ] )`

Parameters

The following provides a description of the parameters you can use when using IF and conditions.

For...	Valid values are...
CC, HC, and DOSCC	1 to 999
PART	2 character partition ID
CPU	0 to 9, A to Z
DATE and TIME	2 to 8 characters
G*nnn*	1 to 3 characters

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Definitions

The following provides definitions for the parameters you can use when using IF and conditions.

<table>
<tr><th>Parameter</th><th colspan="3">Definition</th></tr>
<tr><td>type</td><td colspan="3">Specifies the type of input data to be tested:</td></tr>
<tr><td rowspan="10"></td><td rowspan="10"></td><td>Use...</td><td>To test the...</td></tr>
<tr><td>CC</td><td>current condition code</td></tr>
<tr><td>CPU</td><td>CPU ID</td></tr>
<tr><td>HC</td><td>highest condition code</td></tr>
<tr><td>DOSCC</td><td>VSE cancel code</td></tr>
<tr><td>PART</td><td>partition ID</td></tr>
<tr><td>DATE</td><td>current date</td></tr>
<tr><td>TIME</td><td>current time</td></tr>
<tr><td>Gnn</td><td>global constant</td></tr>
<tr><td>operand</td><td colspan="3">Specifies the kind of test:</td></tr>
<tr><td rowspan="7"></td><td rowspan="7"></td><td>Use...</td><td>To test whether the input data is...</td></tr>
<tr><td>EQ</td><td>equal to value</td></tr>
<tr><td>NE</td><td>not equal to value</td></tr>
<tr><td>GT</td><td>greater than value</td></tr>
<tr><td>LT</td><td>less than value</td></tr>
<tr><td>GE</td><td>greater than value</td></tr>
<tr><td>LE</td><td>less than or equal to value</td></tr>
<tr><td>value</td><td colspan="3">Specifies the constant used in the comparison. Global constants are set with the SETG JMCL parameter.</td></tr>
<tr><td>DOSCC</td><td colspan="3">Values are decimal codes generated by VSE. The normal EOJ code is 16. You can check the DOSCC across job boundaries.</td></tr>
<tr><td>CPU ID</td><td colspan="3">Same number generated when you use BIM-EPIC CPU independence—that is, the last digit specified for CPUIDS configuration option.

In partition comparisons, only the EQ and NE operands are valid, for example, IF=(PART EQ BG) is valid; IF=(PART LE BG) is invalid.</td></tr>
<tr><td>CPU ID DATE</td><td colspan="3">Specified in yy-mm-dd format.</td></tr>
</table>

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Parameter	Definition
TIME	Specified in *hh-mm-ss* format. To test only a portion of the date and time, supply only the portion you want to test. You can use asterisks (*) as fillers for beginning parts of the field. For example, to test for the first day of the month, specify IF=(DATE EQ **-**-01). To test for January, specify IF=(DATE EQ **-01).

Example

The following provides several examples of IF job statements.

```
* JMCL IF=(HC EQ 99),GOTO=JOBEND
* JMCL IF=(PART NE BG,CPU EQ 5),GOTO=BGSTEP
// EXEC PHASE1 IF=(CC LT 16)
```

The first statement tests the highest condition code. If the highest condition code is 99, BIM-EPIC branches to the end of the job. The second statement uses the AND condition. If the job is not running in the BG partition but is running on CPU 5, a branch is made to BGSTEP. If neither of these tests is true, the job continues with the EXEC statement. However, PHASE1 only executes if the current condition code is less than 16.

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Setting Values

Description

You can establish condition code values and a maximum of fifteen global constants with JMCL parameters. These constants can be tested with the IF parameter.

SETC

SETC sets the current condition code to a specified number. This action updates the highest condition code, if appropriate.

The current condition code remains in effect until a new value is set by another SETC parameter, until a RESET is encountered, or until a new value is set by the TSIDJC2 subroutine.

SETC is valid on OPTION and JMCL statements, where SETC is in effect as soon as the statement is processed. SETC is also valid on EXEC statements, where the condition code is set only if the program executes successfully. The following is an example of a SETC command statement.

`SETC=`*`nnn`*

SETG

SETG sets global constants. You can have up to 15 global constants. Each constant remains in effect until you perform an IPL VSE or until you set a new value with SETG. SETG is valid on JMCL and OPTION statements only. The following is an example of a SETG command statement.

`SETG`*`nn`*`=`*`'constant'`*

Parameters

The following provides a description of the parameters you can use when setting values.

Parameter	Required?	Valid	Default
nnn	No	1 to 255	None
nn	No	01 to 15	None
constant	Yes	1 to 16 characters	None

Definitions

The following provides definitions for the parameters you can use when setting values.

Parameter	Definition
nnn	Specifies the number for the current condition code.
nn	Identifies which global constant you are setting. Valid constants are 1 through 15 or a constant of from 1 to 16 characters.

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Parameter	Definition
constant	Specifies the value of the constant. You can use spaces.

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Symbolic Replacements

Description

Symbolic replacements replaces a set of characters found in your JCL. These replacements are useful for setting JCL subparameters or comments at execution time.

BIM-EPIC inserts the replacement value into the statement and shifts to the right any data following the replacement symbol. For example:

```
* JMCL &1='INVENTRY.INPUT'
// TLBL SORTOUT,'&1',,,,,,2
```

would result in:

```
// TLBL SORTOUT,'INVENTRY.INPUT',,,,,,2
```

WARNING:
You must avoid truncation of a statement exceeding 71 characters. A JCL statement cannot exceed 71 characters.

Symbolic replacements are not valid on POWER JECL statements or in SYSIPT data. Any other statement, including JMCL statements, can use symbolic replacements.

You should assign values to symbolic replacements on OPTION statements.

&n

The symbolic replacement parameter has the format &*n*, where *n* is a number between 0 and 9. Use the symbolic replacement parameter to replace characters with the value you assign to the symbol.

You can have up to 10 symbolic replacements in effect at the same time. Each parameter remains in effect until it is re-assigned in a JMCL or OPTION statement or until it is nullified with RESET, or end-of-job occurs. The following is an example of a command statement containing a symbolic replacement parameter.

```
&n='constant'
```

Definitions

The following provides definitions for the parameters you can use when setting symbolic replacements.

Parameter	Definition
n	Identifies the symbol being assigned.
constant	Specifies the value assigned to the symbol. The symbol must be enclosed in apostrophes and can contain spaces.

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Example

In the following example, &1 is changed to PAYROLL.INPUT.

```
* JMCL &1='PAYROLL.INPUT'
// DLBL INPUT,'&1'   becomes
// DLBL INPUT,'PAYROLL INPUT'
```


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RESET

Description

RESET nullifies most JMCL parameters. You can use RESET to set the current or highest condition code to zero, nullify GOTO branches, and nullify TIME control over a job.

For best results, use the global RESET parameter on the JOB statements and at the end of all jobs that do not have a logical dependency on previous jobs.

RESET is valid on JOB, EXEC, JMCL, and OPTION statements. When RESET is specified on a JOB statement, it is processed before any other JMCL parameters.

Syntax

The following is an example of a RESET command syntax.

```
RESET=[CC | HC | NAME | TIME]
```

Parameters

The following provides a description of the parameters you can use with RESET.

Parameter	Required?	Valid	Default
CC	No		None
HC	No		None
NAME	NO		None
TIME	NO		None

Definitions

The followng provides a definition of the parameters you can use with RESET

Parameter	Definition
CC	Resets the current condition code.
HC	Resets the highest condition code.
NAME	Nullifies any branch in effect. Processing resumes with the current statement.
TIME	Nullifies TIME control over the job.

WARNING:
When no parameters are specified, all values are reset to their defaults.

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Example

The following restart job example shows JMCL parameters working together.

```
// JOB EXAMPLE TYPRUN=RESTART,RESET,TIME=240
* JMCL HOLD
// OPTION LOG &1=PAYROLL
* JMCL &2=PAYROLL
* JMCL GOTO=STEP2
// ASSGN SYS001,DISK,VOL=VOLUME,SHR
// DLBL SORTWK1,'==.SORTWK1(P)'
// EXTENT SYS001
// DLBL SORTIN,'&1.INPUT'
// DLBL SORTOUT,'&2.OUTPUT'
// EXEC SORT DATA
sort statements
/*
* JMCL NAME=STEP2
* JMCL IF=(DATE EQ **-**-01,TIME LT 19-00-00),GOTO=STEP3
// DLBL INPUT,'&1.INPUT'
statements
* JMCL NAME=STEP3
statements
/&
```

RESET resets any JMCL parameters established in a previous job. The TIME parameter limits the execution of the job to 4 hours.

Since the example is a restart job, GOTO bypasses the first step, which completed successfully in a previous execution. GOTO is placed after the symbolic replacement definitions so that the definitions remain in effect. The DATA parameter allows BIM-EPIC to bypass the sort control statements, SYSIPT data. TYPRUN=RESTART is specified so that the sort work area in the bypassed step is deleted. The data was retained in the previous execution because of JMCL HOLD, specified in the second statement.

The * JMCL NAME=STEP2 statement defines the point at which processing should resume after the GOTO branch. The next statement tests the date and time. If it is the first of the month and earlier than 7:00 p.m., BIM-EPIC branches to the statement
* JMCL NAME=STEP3. If either condition is false, processing continues with the // DLBL INPUT statement.

Both the &1 and &2 symbols are replaced with PAYROLL.

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Using the JMCL Interface

TSIDJC2

Description

Your batch program can interface with BIM-EPIC Job Management Control Language (JMCL) by calling the TSIDJC2 subroutine.

TSIDJC2 can retrieve the following:

- DOS job name
- Program name
- Current date (`mm/dd/yy`)
- Current time (`hh.mm.ss`)
- CPU ID character
- Current JMCL condition code
- Highest JMCL condition code
- Task time limit
- JMCL symbolic values
- JMCL global constants

TSIDJC2 can update the following:

- Current JMCL condition code
- Highest JMCL condition code
- JMCL symbolic values
- JMCL global constants

Parameters

TSIDJC2 uses a parameter list to indicate the function being performed, for example, GET or PUT. In addition, TSIDJC2 provides the data areas for returning or updating data fields. Two examples are provided in the VSE sub-library where BIM-EPIC is installed:

- TSIDJC2.C for COBOL programs
- TSIDJC2.A for Assembler programs

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The TSIDJC2 subroutine can be called from any language that uses standard VSE calling conventions.

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Retrieving JMCL Data

GET REQUEST (G)

Data can be retrieved from the JMCL system by passing the character G to TSIDJC2 in the request byte of the parameter list.

- If you are using TSIDJC2.A, this byte is labeled JCSREQ.
- If you are using TSIDJC2.C, this byte is labeled JCS-REQ.

Control is returned to the next instruction following the CALL statement.

COBOL Example

The following example is a GET request in COBOL.

```
WORKING-STORAGE  SECTION.
COPY TSIDJC2.
.
.
.
PROCEDURE DIVISION.
MOVE   'G' TO JCS-REQ.
CALL   'TSIDJC2' USING JCS-START.
```

Assembler Example

The following example is a GET request in Assembler.

```
MVI    JCSREQ,JCSREQG
CALL   TSIDJC2,(JCSSTART)
```


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Updating JMCL Data

Description

JMCL data can be updated by passing the character P to TSIDJC2 in the request byte of the parameter.

- If you are using TSIDJC2.A, this byte is labeled JCSREQ.
- If you are using TSIDJC2.C, this byte is labeled JCS-REQ.

A PUT request updates the current JMCL condition code, the highest JMCL condition code, all JMCL symbolics, and all global constants. A GET request should precede each PUT request to ensure that all data fields not explicitly being modified are updated to their previous values. Control is returned to the next instruction following the CALL statement.

To update the current or highest JMCL condition code, move the new condition code to the appropriate data field as a 2-byte binary value. During the update process, the highest condition code is set first. Then the current condition code is set. When the current condition code is set, it is checked against the highest condition code to determine whether the new condition code is now the new highest condition code.

- If you are using TSIDJC2..A , the JMCL current condition code is labeled JCSCC with the highest condition code labeled JCSHC.
- If you are using TSIDJC2.C, the condition code is labeled JCS-CURR-COND-CODE with the highest condition code labeled JCS-HIGH-COND-CODE.

To update a symbolic, move the new 1 through 20 character symbolic to the appropriate data field.

- If you are using TSIDJC2.A, symbolics &0 through &9 are labeled JCSSYM0 through JCSSYM9.
- If you are using TSIDJC2.C, symbolics &0 through &9 are labeled JCS-SYMBOLIC-0 through JCS-SYMBOLIC-9.

If the new symbolic is less than 20 characters, the symbolic must be left-justified and padded with spaces on the right. To remove a symbolic, clear the symbolic data field with hex zeros or LOW-VALUES.

To update a global constant, move the new 1 through 16 character constant to the appropriate data field.

- If you are using TSIDJC2.A, global constants G01 through G15 correspond to the parameter data fields JCSGBL1 through JCSGBL15.

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- If you are using TSIDJC2.C, global constants G01 through G15 correspond to the parameter data fields JCS-GLOBAL-CONS-1 through JCS-GLOBAL-CONS-15.

If the new global constant is less than 16 characters, the global constant must be left justified and padded with spaces on the right. To remove a global constant, clear the global constant data field with hex zeros or LOW-VALUES.

COBOL Example

The following example is a PUT request in COBOL.

```
WORKING-STORAGE  SECTION.
COPY TSIDJC2.
.
.
.
PROCEDURE DIVISION.
MOVE   'G' TO JCS-REQ.
CALL   'TSIDJC2' USING JCS-START.
MOVE   0 TO JCS-CURR-COND-CODE.
MOVE   'MONTHLY' TO JCS-SYMBOLIC-2.
MOVE   LOW-VALUES TO JCS-GLOBAL-CONSTANT-10.
MOVE   'P' TO JCS-REQ.
CALL   'TSIDJC2' USING JCS-START.
```

Assembler Example

The following example is a PUT request in Assembler.

```
MVI    JCSREQ,JCSREQG
CALL   TSIDJC2,(JCSSTART)
MVC    JCSCC,=XL2'00'
MVC    JCSSYM2,=CL20'MONTHLY'
XC     JCSGBL10,JCSGBL10
MVI    JCSREQ,JCSREQP
CALL   TSIDJC2,(JCSSTART)
```


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TSIDJC2 Return Codes

Description

TSIDJC2 returns a value in the return code byte of the parameter list.

- If you are using TSIDJC2.A, this byte is labeled JCSRC.
- If you are using TSIDJC2.C, the byte is labeled JCS-RC.

All return codes are one-byte character values.

Values

The following describes the TSIDJC2 return codes.

Return Code	Description
0	Successful completion of the GET or PUT request.
1	Neither BIM-EPIC nor the JMCL system is active.
2	A secondary routine (TSIDJCS) could not be loaded from the BIM-EPIC system library. The normal cause for this problem is not having the BIM-EPIC system library in the search chain of the calling program's partition.
3	There was insufficient Partition GETVIS available to load the TSIDJCS routine. The simplest way to correct this problem is to add a SIZE= parameter to the EXEC statement.
4	The request code in JCSREQ or JCS-REQ was not a GET or PUT.

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Executing CP Commands

Descriptoin

You can execute any VM/CP command in your VSE job stream using the JMCL CP control statement. The CP control statement must begin in column 1.

Configuration Options

For CP commands to be valid, the VM configuration option must be set to YES.

Syntax

The following is an example of a CP command syntax.

```
* CP command
```

Definition

The followng provides a definition of the parameter you can use with the CP commands

Parameter	Definition
command	Specifies which VM/CP command to execute.

Example

The following statement lists all tape drives on the operator console.

```
* CP Q T ALL
```


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10

BIM-EPIC Job Scheduling

The BIM-EPIC job scheduling system can be used to control execution across all partitions and VSE machines sharing the same DSN Catalog.

Chapter Contents

Job Scheduling Activities
Event Scheduling Activites
Executing Various Activities
Executing in CICS

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Job Scheduling Activities

Scheduling Activities

Description

When a job, step, or process is complete, you can direct BIM-EPIC to post an event. BIM-EPIC writes the name of the event in the DSN Catalog as a version of the dataset *EPIC.EVENT.DSN*. This event name is assigned by you so you can identify completed events. Like versions of a tape or disk dataset, posted events become eligible for scratch according to the retention criteria cataloged for the dataset.

If *EPIC.EVENT.DSN* is not already in the catalog, BIM-EPIC automatically adds it the first time an event is posted. Default day and cycle retention is used to retain posted events. However, you have the option to change the retention with manual catalog maintenance using Online Manager or TSIDMNT.

Posted events can be deleted using TSIDUTL SCRATCH or TSIDMNT SCRATCH. However, in most cases, you should use TSIDUTL SCRATCH.

Job scheduling subroutines put the event name in the SYSPARM value. COBOL programs do special processing when SYSPARM values include A or D.

WARNING:
To avoid potential conflict, do not use the letters A or D in event names processed with BIM EPIC job scheduling subroutines.

There are four job scheduling functions:

- Posting an event and releasing all matching jobs
- Posting an event only
- Checking for a posted event and releasing the requesting job
- Deleting a posted event

For each job scheduling function, BIM-EPIC provides one batch utility, one standard processing subroutine, and one CICS subroutine.

The batch utilities and subroutines share the same names. CICS subroutine names begin with TSIDC.

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Event Scheduling Activites

Event Posting and Release of Matching Jobs (TSIDREL and TSIDCREL)

Description

TSIDREL and TSIDCREL post events and automatically release jobs with matching job names from the POWER reader queue.

To be released, a job must be in disposition H or L in the POWER reader queue. In addition, the POWER job name must match the event name posted.

If the event name is 8 characters, BIM-EPIC releases the job with the following POWER command:

`R RDR,`*`event-name`*

If the event name is less than 8 characters, BIM-EPIC releases the job with the following POWER command:

`R RDR,*`*`event-name`*

If this results in multiple jobs being released into the same partition and some or all of them have the same priority, they execute in the order they were released.

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Event Posting (TSIDLOC and TSIDCLOC)

Description

TSIDLOC and TSIDCLOC post events. They do *not* release jobs. When you use TSIDLOC or TSIDCLOC, dependent jobs must issue a check for the posted event using TSIDCHK or TSIDCCHK.

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Event Checking (TSIDCHK and TSIDCCHK)

Description

TSIDCHK and TSIDCCHK are used within a job to determine if an event has been posted before continuing with a dependent task. If the event has been posted, the job continues without interruption.

If you use TSIDCHK to check for the event and the event is *not* posted, execution is interrupted. TSIDCHK issues a message to the operator and asks whether the job should be canceled or suspended. If the operator responds with WAIT, the job is suspended. However, the partition is stopped until the event is posted. When the event is posted, the partition is restarted automatically. If the event is never posted, the operator must recoginze the situation and cancel the suspended job.

TSIDCCHK, the CICS version, does *not* interrupt processing if the event is not posted. Your program must check the return code passed and proceed accordingly.

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Event Deletion (TSIDUNL and TSIDCUNL)

Description

TSIDUNL and TSIDCUNL delete posted events. Use TSIDUNL and TSIDCUNL to delete an event after all dependent tasks have completed. This is important if another processing cycle occurs before the event is scratched automatically during TSIDUTL processing.

If you do not delete the events, they become eligible for scratch.

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Executing Various Activities

Executing in Batch Jobs

Description

TSIDREL, TSIDLOC, TSIDCHK, and TSIDUNL can be executed in batch jobs instead of being invoked through a CALL routine.

JCL Requirements

The following example shows the JCL requirements for executing a batch job.

```
// OPTION SYSPARM='event-name'
// EXEC TSIDxxx
// OPTION SYSPARM='        '
```

Two OPTION statements are required. One OPTION statement is required to specify the event name as a SYSPARM. The second OPTION statement is required to clear the SYSPARM so it does not affect later processing.

Definitions

The following provides definitions for the parameters you can use when executing a batch job.

Parameter	Definition
event-name	Specifies the name of the event to be posted or the name of the job to be released. The *event-name* may be 1 to 8 characters long.
TSID*xxx*	Specifies the utility you are executing. Specify TSIDREL, TSIDLOC, TSIDCHK, or TSIDUNL.

Example

The following example executes TSIDREL. The job posts an event with the name PAY and releases all jobs in the POWER reader queue which have job names beginning with PAY.

```
// JOB RELEASE JOBS
// OPTION SYSPARM='PAY'
// EXEC TSIDREL
// OPTION SYSPARM='        '
/&
```


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Executing Standard Processing Subroutines

Description

TSIDREL, TSIDLOC, TSIDCHK, and TSIDUNL are callable subroutines for non-CICS programs. Standard linkage conventions apply to all four subroutines.

Processing Requirements

To process requirements for TSIDREL, TSIDLOC, and TSIDUNL:

Step	Action
1	Perform the `event` task.
2	Move the event name to the EVENT-NAME field. See "Job Scheduling Activities" in this chapter for additional information on event name limitations.
3	Issue a call to the appropriate subroutine.

Examples

The following example calls TSIDUNL. The CALL deletes the PAY event after PAYROLL checks have been processed.

```
...
WORKING-STORAGE SECTION.
01 EVENT-NAME         PIC X(8) VALUE SPACES.
PROCEDURE DIVISION.
     PERFORM PAYROLL-CHECKS.
     MOVE 'PAY' TO EVENT-NAME.
     CALL 'TSIDUNL' USING EVENT-NAME.
...
```

Processing Requirements

To process the TSIDCHK requirements:

Step	Action
1	Move the event name to the EVENT-NAME field. See "Job Scheduling Activities" in this chapter for details about event-name limitations.
2	Issue a call to TSIDCHK.
3	Perform the dependent task.

The following example calls TSIDCHK, with PAY as the EVENT-NAME. If that event is posted, the task performs PAYROLL-CHECKS.

```
...
WORKING-STORAGE SECTION.
01 EVENT-NAME         PIC X(8) VALUE SPACES.
PROCEDURE DIVISION.
   MOVE 'PAY' TO EVENT-NAME.
   CALL 'TSIDCHK' USING EVENT-NAME.
...
```


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Executing in CICS

CICS Subroutines

Description

TSIDCREL, TSIDCLOC, TSIDCCHK, and TSIDCUNL are CICS subroutines that can be called from a CICS command-level program.

The program must link to them using a 69-byte communications area with the following format:

Byte	Contents
1–8	EVENT–NAME
9	EVENT–RETURN–CODE
10–69	EVENT–POWER–MESSAGE

For TSIDCREL, when EVENT–RETURN–CODE is P, bytes 10 through 69 contain the following contents:

Byte	Contents
10–12	CTL Spool Return Code
13–21	reserved
15–22	XPCC Function That Failed
23–36	reserved
37–38	VSE Return Code
39	reserved
40–41	Reason Code
42–54	reserved
55–56	POWER Return Code
57	reserved
58–59	POWER Feedback Code
60–69	reserved

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Return Codes

TSIDCREL

The following describes the TSIDCREL return codes.

Return Code	Description
A	The event has already been posted. No jobs are released.
F	The DSN Catalog is full and the event cannot be posted.
M	The event name specified in EVENT–NAME is missing or invalid.
P	The event was posted, but there was an error in releasing jobs from the POWER reader queue.
W	The event was posted, but POWER is in a busy state and jobs were not released.
X	The event was posted, but the XECB supervisor table is full.
Y	The event was posted and the jobs were released successfully.
5	The event was posted, but the POWER XPCC function failed.
6	The event was posted, but POWER is being terminated.
7	The event was posted, but POWER has terminated abnormally.
8	The event was posted, but TSIDCREL could not make a connection to POWER within 30 seconds.
9	The event was posted, but the POWER file could not be located.

Return codes 5 through 9 indicate highly unusual situations and should not occur.

Each of the numeric return codes (*n*) is associated with a BIM-EPIC message, numbered EPV3*n*. See *BIM-EPIC Messages and Codes*, message EPV35 for additional information on finding the message associated with return code 5.

TSIDCLOC

The following describes the TSIDCLOC return codes.

Code	Description
A	The event has already been posted.
F	The DSN Catalog is full and the event cannot be posted.
M	The event name is missing or invalid.
Y	The event was posted successfully.

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TSIDCCHK

The following describes the TSIDCCHK return codes.

Code	Description
M	The event name is missing or invalid.
N	The event is not posted.
Y	The event is posted.

TSIDCUNL

The following describes the TSIDCUNL return codes.

Code	Description
E	The *EPIC.EVENT.DSN* dataset definition has been deleted from the DSN Catalog.
F	The DSN Catalog is full.
M	The event name is missing or invalid.
N	The event was not posted.
Y	The event was deleted successfully.

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Processing Requirements

Description

To process the TSIDCHK subroutines:

Step	Action
1	Move the event name to the EVENT–NAME field. See "Job Scheduling Activities" in this chapter for details describing event–name limitations.
2	Link to the subroutine.
3	Check the return code passed and process accordingly.

Example

The following is an example of a TSIDCHK subroutine.

```
WORKING-STORAGE SECTION.
01 EVENT.
   02 EVENT-NAME            PIC X(08).
   02 EVENT-RETURN-CODE     PIC X(01).
      88 SUCCESS      VALUE 'Y'.
      88 FAILURE        VALUE 'N'.
   02 EVENT-POWER-MESSAGE PIC X(60)
PROCEDURE DIVISION.
   MOVE 'PAY' TO EVENT-NAME.
   EXEC CICS
      LINK PROGRAM ('TSIDCCHK')
           COMMAREA (EVENT)
           LENGTH (69)
   END EXEC.
   IF SUCCESS
       GOTO PERFORM
   ELSE
       GOTO WAIT.
...
```

This example checks to determine if an event has been posted with TSIDCCHK. If the event has been posted, TSIDCCHK performs the dependent task. If the event has not been posted, TSIDCCHK goes to the WAIT routine.

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Creating Job Setup/Run Sheets (TSIDFAV)

Description

Use TSIDFAV to create Job Setup/Run Sheets.

UPSI Settings

The following provides descriptions of the values associated with the TSIDFAV utility.

Setting	Action
// UPSI 1XXXX	Print comment cards.
// UPSI X1XXX	Print user data cards.
// UPSI XX1XX	Scan all VSE jobs for creation of input files.
// UPSI XXX1X	Scan all POWER JOBS for creation of input files.
// UPSI XXXX1	Input JCL submitted backwards (POWER MODE).

Modes of Execution

TSIDFAV can be executed in VSE mode or in POWER mode. The execution mode is determined by UPSI bit 4 (relative to zero).

- To execute in VSE mode, set the UPSI bit to zero (off).
- To execute in POWER mode, set the UPSI bit to 1 (on).

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SET Control Statement

Description

Use the SET control statement to define the partition ID and CPUID values used to replace equal signs (=) in the dataset name. SET must precede all job controls submitted. The SET control statement must begin on column 1.

Syntax

The folllowing is an example of a SET control statement syntax:

```
SET PART=XX CPUID=y
```

Parameters

The following provides a description of the parameters you can use when using the SET control statement.

Parameter	Required?	Valid	Default
PART	Yes		
CPUID	Yes		

Definitions

The following provides definitions for the parameters you can use when using the SET control statement.

Parameter	Definition
PART=xx	Defines the 2-character partition ID for replacing the first two equal signs. If this parameter is omitted, the first two equal signs are replaced by the partition ID where TSIDFAV is being executed.
CPUID=y	Defines the 1-digit CPUID for replacing the third equal sign. If this parameter is omitted, the third equal sign is replaced by the last digit of the CPUID where TSIDFAV is being executed

VSE Mode

In VSE mode, all job control is submitted to TSIDFAV in the order in which it is executed. The JCL is submitted either as instream data, following the EXEC statement, or via tape or disk input using the DTF name DISKIN. If POWER JECL is included in the jobstream, the input must be submitted via tape or disk. If the input is submitted after the EXEC statement, SYS004 must be assigned to SYSIPT. Under all types of input, the last record must be the EOF flag as determined by TYPE=EOF in the TSIDFAV macro or defaulted to two dashes (--).

JCL Examples for VSE Mode

The following are JCL examples when using VSE mode.

```
// JOB TSIDFAV
* INPUT INSTREAM DATA
// ASSGN SYS004,SYSIPT           REQUIRED
// UPSI XXXX0
```


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```
// EXEC TSIDFAV
 VSE JCL
--
/*
/&

// JOB TSIDFAV
* DISK INPUT
// DLBL DISKIN,'FAV.INPUT.JCL'    REQUIRED
// ASSGN SYS004,DISK,...
// UPSI XXXX0
// EXEC TSIDFAV
/*
```

POWER Mode

When using POWER mode, the job control must be submitted backwards, in reverse order of execution, and upside down so that card column 1 is submitted to TSIDFAV in card column 80. This prevents POWER from processing any POWER JECL submitted as instream data. The JCL can be submitted either as instream data, following the EXEC statement, or via tape or disk input using the DTF name DISKIN. If the input is submitted after the EXEC statement, SYS004 must be assigned to SYSIPT.

The EOF flag must be submitted in columns 1 and 2, not reversed.

Note:
This technique can be used only in installations that still have physical card readers.

JCL Examples for POWER Mode

The following are JCL examples when using POWER mode.

```
// JOB TSIDFAV
* INPUT INSTREAM DATA
// ASSGN SYS004,SYSIPT           REQUIRED
// UPSI XXXX1
// EXEC TSIDFAV
 VSE JCL AND POWER JECL READ WITH 9 EDGE IN
--                       (EOF FLAG)
/*
/&

// JOB TSIDFAV
* DISK INPUT
// DLBL DISKIN,'FAV.INPUT.JCL'    REQUIRED
// ASSGN SYS004,DISK,...
// UPSI XXXX1
// EXEC TSIDFAV
/*
```

TSIDFAV reads the VSE procedures and POWER SLIs from the appropriate VSE library. However, TSIDFAV does not support either PROC or SLI overwrites. Nested SLIs are supported. However, nested PROCs are not supported.

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Job Activity Reports

BIM-EPIC provides several job accounting programs. These programs produce job accounting statistics using data collected from the Recorder File. All job accounting is affected by the JOBACCT and RECORD configuration options.

Chapter Contents

Recorder History
Activity Log Report (TSIDARP)
DSN/Job Cross-Reference Report (TSIDBRP)
Job Time Activity Report (TSIDJAC)
Maintaining the Job Accounting Database
CICS Access to Job Accounting Database

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Recorder History

Description

BIM-EPIC Recorder Backup files can be used to create job activity reports. For example, you may want to combine daily backups into a single Recorder History dataset. You can create a new Recorder History dataset weekly, monthly, or for any specified time period.

To create a Recorder History dataset:

Step	Action

1	Create a new Recorder History dataset using a tape-to-tape copying utility, such as TSIDDTD. The Recorder Backup file format is fixed-blocked, with a record length of 338 and a block size of 5746.
	
	`// JOB INITIALIZE RECORDER HISTORY FILE`
	`// TLBL INPUT,'DAILY.RECORDER'`
	`// TLBL OUTPUT,'RECORDER.HISTORY'`
	`// EXEC TSIDDTD`
	`/*`
	`/&`

2	Combine the new Recorder Backup files into an existing Recorder History dataset. The example below uses a sort program. You can use whatever mechanism you prefer.
	
	`// JOB MERGE VSE RECORDER FILES`
	`// TLBL SORTIN1,'VSE.DAILY.BACKUP',,,,,2`
	`// TLBL SORTIN2,'VSE.MNTHLY.BACKUP',,,,,2`
	`// TLBL SORTOUT,'VSE.MNTHLY.BACKUP',,,,,2`
	`// DLBL SORTWK1,'===.SORTWK1'`
	`// EXTENT SYS004`
	`// EXEC TSIDSRT`
	`SORT`
	`FIELDS=(25,2,A,21,6,A,17,4,A),FILES=2,FORMAT=BI`
	`RECORD TYPE=F,LENGTH=338`
	`INPFIL BLKSIZE=5746`
	`OUTFIL BLKSIZE=5746`
	`OPTION PRINT=ALL`
	`END`
	`/*`
	`/&`

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Activity Log Report (TSIDARP)

Description

TSIDARP produces the Activity Log report which shows open and close activity for controlled datasets. Open and close activity is sorted by:

- System ID
- Date and time
- Job name

The Activity Log report can be limited to activity generated on any CPU or occurring during a specific time period. TSIDARP also produces the cross-reference dataset that is used as input to TSIDBRP.

Control Statements

There are two optional control statements for TSIDARP.

- EXCLUDE control statement
- TSIDARP control statement

JCL Requirements

The following is an example of the JCL requirements for an Activity Log report.

```
// ASSGN SYS003,SYSIPT
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=volser,SHR
// TLBL SYS005,'daily.recorder.backup'
// DLBL SYS002,'recorder.cross.ref'
// DLBL SORTWK1,'===.sortwk1'
// EXTENT SYS001
// EXEC TSIDARP
control statements
/*
```

UPSI Values

There are no UPSI values.

Dataset Requirements

SYS005 identifies the dataset used as input. You can use the TSIDRFS Recorder Backup file or you can use a Recorder History dataset.

SYS002 identifies the cross-reference dataset produced as output. This dataset is used as input for TSIDBRP.

SORTWK1 identifies a sort work area for an internal sort. You must provide an ASSGN and a dummy EXTENT statement.

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EXCLUDE Control Statement

The EXCLUDE control statement specifies a job excluded from the report. If used, EXCLUDE must come before the TSIDARP statement. You can use up to 20 EXCLUDE statements, each statement specifying a job name.

Syntax

The following is an example of an EXCLUDE control statement syntax.

`EXCLUDE=`*`jobname`*

TSIDARP Control Statement

The TSIDARP control statement specifies dates, CPUs, and partitions to include in the report. TSIDARP is optional and, if omitted, the report will contain all relevant data.

The TSIDARP statement is a 29-byte record, consisting of five fields:

Bytes	Field Contents
1–7	TSIDARP
8–14	Starting date, in Julian format (*ccyyddd*)
15–21	Ending date, in Julian format (*ccyyddd*)
22–27	CPU ID
28–29	Partition ID

The statement must begin with TSIDARP. All other fields are optional. To omit a field, leave the field blank. If a field is omitted, the report will contain all relevant data for that field.

Syntax

The following is an example of an TSIDARP control statement syntax.

`TSIDARP`*`sssssssseeeeeeeiiiiiipp`*

Example

The following example produces an Activity Log report for jobs run from December 1, 1994 to December 31, 1994. It includes only those jobs that were run on CPU 55555 in the BG partition. It excludes all datasets from the CICSPR16 job.

```
// JOB TSIDARP ACTIVITY LOG REPORT
// ASSGN SYS003,SYSIPT
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=WORK01,SHR
// TLBL SYS005,'DAILY.RCDR.BACKUP'
// DLBL SYS002,'RECORDER.CROSS.REF'
// DLBL SORTWK1,'==.SORTWK1'
// EXTENT SYS001
// EXEC TSIDARP
EXCLUDE=CICSPR16
TSIDARP1994335199436555555BG
/*
/&
```


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DSN/Job Cross-Reference Report (TSIDBRP)

Descr‘iption

TSIDBRP generates two reports:

- DSN/JOB Cross-Reference Report
- Accepted Tapes Report

The DSN/JOB Cross-Reference report lists tape activity and is a cross-reference to the TSIDARP Activity Log report.

The Accepted Tapes report lists the controlled tapes that were accepted as input with the ACCEPT response to BIM-EPIC message EP009.

TSIDBRP uses one of three datasets as input, depending on the UPSI value specified. For UPSI 000, 010, and 100, TSIDBRP uses the output dataset created by TSIDARP, called the Recorder Cross-Reference dataset. For UPSI 101, TSIDBRP uses either the TSIDRFS Recorder File backup dataset created by TSIDRFS or the Recorder History dataset.

TSIDBRP uses the entire input dataset to create the contents of its the reports. If you use the dataset created by TSIDARP, the time period for the report is the same as the time period used for TSIDARP. If you use the Recorder File backup or the Recorder History file dataset, the time period for the report is the time period covered by the Recorder File backup or the Recorder History dataset.

If you use the Recorder Cross-Reference dataset as your input dataset, you may want to run TSIDARP and TSIDBRP in the same job stream.

JCL Requirements

The following are examples of the JCL requirements for TSIDBRP.

```
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=volser,SHR
// DLBL SORTWK1,'===.sortwk1'
// EXTENT SYS001
// DLBL SYS002,'recorder.cross.ref'
// DLBL SYS005,'recorder.xref.work.file'
// UPSI 000
// EXEC TSIDBRP
/*
```

or

```
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=volser,SHR
// DLBL SORTWK1,'===.sortwk1'
// EXTENT SYS001
// TLBL SYS005,'daily.recorder.backup'
// UPSI 101
// EXEC TSIDBRP
/*
```


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UPSI Values

The following UPSI values can be used when creating DSN/JOB Cross-Reference reports.

Value	Function
000	Creates both reports. UPSI 000 uses the TSIDARP Recorder Cross-Reference dataset as input.
010	Creates only the DSN/JOB Cross-Reference report. UPSI 010 uses the Recorder Cross-reference dataset as input.
100	Creates only the Accepted Tapes report. UPSI 100 uses the Recorder Cross-Reference dataset as input.
101	Creates only the Accepted Tapes report. UPSI 101 uses the Recorder Backup file or the Recorder History dataset as input.

Dataset Requirements

SYS002 identifies the Cross-Reference dataset created by TSIDARP. SYS002 is required when using UPSI 000, UPSI 100, and UPSI 010.

SYS005 identifies the Recorder File backup or the Recorder History dataset when used with UPSI 101. SYS005 It also identifies the Recorder Cross-Reference dataset when used with UPSI 000.

SORTWK1 identifies a sort work area for an internal sort. You must provide an ASSGN and a dummy EXTENT statement.

Control Statements

TSIDBRP does not require any control statements.

Examples

The following example creates the DSN/JOB Cross-Reference report. This example uses the TSIDARP Recorder Cross-Reference dataset as input.

```
// JOB TSIDBRP CROSS-REFERENCE REPORT
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=volser,SHR
// DLBL SORTWK1,'==.SORTWK1(N,D,P)'
// EXTENT SYS001
// DLBL SYS002,'RECORDER.CROSS.REF'
// UPSI 010
// EXEC TSIDBRP
/*
/&
```

The following example creates the Accepted Tapes report. This example uses the Recorder File backup as input.

```
// JOB  TSIDBRP CROSS-REFERENCE REPORT
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=volser,SHR
// DLBL SORTWK1,'==.SORTWK1(N,D,P)'
// EXTENT SYS001
// TLBL SYS005,'DAILY.RCDR.BACKUP'
// UPSI 101
// EXEC TSIDBRP
```


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```
/*
/&
```


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Job Time Activity Report (TSIDJAC)

Description

TSIDJAC produces the Job Time Activity report, which reports machine use statistics by job. Statistics are detailed by job step with totals for each job. In addition, a grand total is generated for all jobs.

Use the Job Time Activity report to find out when a particular job was run. For example, you can provide information detailing the resources used, such as did the inventory program use 100% of the CPU. Statistics include start and end times, duration, partition ID, CPU time, overhead, and I/O activity.

JCL Requirements

The following is an example of the JCL requirements for a Job Time Activity report.

```
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=volser,SHR
// DLBL SORTWK1,'==.sortwk1'
// EXTENT SYS001
// TLBL SYS005,'daily.recorder.backup'
// EXEC TSIDJAC
/*
```

UPSI Values

There are no UPSI values

Dataset Requirements

SYS005 identifies the dataset used as input. You can use either the Recorder File backup or the Recorder History dataset.

SORTWK1 identifies a sort work area for an internal sort. You must provide an ASSGN and a dummy EXTENT statement.

Control Statements

TSIDJAC does not require any control statements.

Example

The following example creates a Job Time Activity report.

```
// JOB  TSIDJAC JOB ACTIVITY
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=WORK01,SHR
// DLBL SORTWK1,'===.SORTWK1'
// EXTENT SYS001
// TLBL SYS005,'DAILY.RCDR.BACKUP'
// EXEC TSIDJAC
/*
/&
```


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Maintaining the Job Accounting Database

Description

TSIDJLD creates and maintains a job accounting database.

You can access this database through CICS with the online access to the Job Accounting database (TOJA) transaction. You can also develop your own reports and CICS transactions to access this data. To help you develop your own access to this data, a COBOL copybook, TSIDOJA.C, is provided.

TSIDJLD uses a VSAM KSDS to store data. See the *BIM-EPIC Installation and System Guide* for additional information on creating a database.

JCL Requirements

The following is an example of the JCL requirements for maintaining the Job Accounting database.

```
// ASSGN SYS003,SYSIPT
// ASSGN SYS004,SYSLST
// ASSGN SYS005,cuu
// ASSGN SYS001,DISK,VOL=volser,SHR
// DLBL SORTWK1,'===.sortwk1'
// EXTENT SYS001
// DLBL TSIJADB,'epicjadb.job.account',,VSAM,CAT=ucat
// TLBL SYS005,'daily.recorder.backup'       (or)
// DLBL SYS005,'daily.recorder.backup'
// EXEC TSIDJLD
control cards
/*
```

UPSI Values

There are no UPSI values.

Dataset Requirements

SYS005 identifies the input dataset. You can use either the Recorder Backup file or the Recorder History dataset.

TSIJADB identifies the database file that will be produced as output. This dataset is a VSAM KSDS and must be defined prior to running TSIDJLD.

SORTWK1 identifies a sort work area for an internal sort. You must provide an ASSGN and a dummy EXTENT statement.

Control Statements

Control statements indicate what data is to be added to or deleted from the database. You can submit up to 95 control statements per execution. All fields are positional.

A control statement is required. All parameters are optional. When a field is omitted, TSIDJLD uses all relevant data.

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You can submit both ADD control statements and DEL control statements in the same execution. All deletes are performed before new information is added.

The control statement is 32 bytes long and consists of five fields:

Bytes	Field Contents
1–3	ADD or DEL
4–11	Job name
12–21	Jobs started on or after this date
22	Blank
23–32	Jobs started on or before this date

Syntax

The following is an example of a control statement syntax.

```
{ADD | DEL}jobnamemm/dd/yyyy mm/dd/yyyy
```

Parameters

The following provides a description of the parameters you can use when maintaining the Job Accounting database.

Parameter	Required?	Valid	Default
Specify one of the following two (required):			
ADD	No	None	OFF
DEL	No	None	OFF
jobname	No	1 to 8 characters	None
mm/dd/yyyy	No	10 characters	None

Definitions

The following provides definitions for the parameters you can use with a Job Accounting statement.

Parameter	Definition
ADD	Adds data from the Recorder Backup file or the Recorder History dataset. If ADD is the only parameter on the statement, all data are added. If other parameters are specified, only data matching those parameters are added.
DEL	Deletes matching data from the database. At least one other parameter must be specified. To delete all records from the database, use IDCAMS to delete and redefine the database.

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Parameter	Definition
jobname	Specifies a particular job to be added to or deleted from the database. You can specify a generic job name by ending the name with an asterisk. For example, specify TST* to process all jobs beginning with TST. All occurrences of that job or those jobs are added or deleted. If the job name is omitted, all jobs on the Recorder Backup file or the Recorder History dataset are added or all jobs matching the dates specified in bytes 12 through 32 are deleted.
mm/dd/yyyy	Adds or deletes jobs started on or after this date. You must use a 2-digit month, day, and a 4-digit year, for example, 01/05/1997, in bytes 12 through 21.
mm/dd/yyyy	Adds or deletes jobs started on or before this date. You must use a 2-digit month, a 2-digit day, and a 4-digit year, for example, 01/05/1997, in bytes 23 through 32.

Examples

The following example adds all information from the Recorder Backup file to the database.

```
// JOB  TSIDJLD UPDATE THE JOB ACCTNG DATA BASE
// ASSGN SYS003,SYSIPT
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=WORK01,SHR
// TLBL SYS005,'DAILY.RCDR.BACKUP'
// DLBL SORTWK1,'===.SORTWK1'
// EXTENT SYS001
// DLBL TSIJADB,'TSIJADB.JOB.ACCOUNT',,VSAM,CAT=UCAT
// EXEC TSIDJLD,SIZE=TSIDJLD
ADD
/*
/&
```

The following example deletes all jobs started on or before December 31, 1994 and adds all information from the Recorder Backup file to the database.

```
// JOB  TSIDJLD UPDATE THE JOB ACCTNG DATA BASE
// ASSGN SYS003,SYSIPT
// ASSGN SYS004,SYSLST
// ASSGN SYS001,DISK,VOL=WORK01,SHR
// TLBL SYS005,'DAILY.RCDR.BACKUP'
// DLBL SORTWK1,'===.SORTWK1'
// EXTENT SYS001
// DLBL TSIJADB,'TSIJADB.JOB.ACCOUNT',,VSAM,CAT=UCAT
// EXEC TSIDJLD,SIZE=TSIDJLD
ADD
DEL                  12/31/1997
/*
/&
```


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CICS Access to Job Accounting Database

Description

The CICS transaction TOJA provides online access to the BIM-EPIC job accounting database.

TOJA consists of the following four panels:

- Job Selection
- Job Overview
- Program Overview
- Program Audit

The Job Selection panel is an entry panel. It allows you to select a job or a set of jobs for display. The rest of the panels display job accounting information at increasing levels of detail.

Panels

The following is an example of the Job Selection panel.

```
            BIM-EPIC/VSE ONLINE JOB ACCOUNTING FACILITY


ENTER JOB NAME TO DISPLAY

    ENTER (EOB) FOR ALL JOBNAMES FROM START OF FILE
    ENTER PARTIAL JOBNAME FOR GENERIC DISPLAY
    ENTER JOBNAME FOR SINGLE JOB DISPLAY
```

The highest level, the Job Overview panel, displays an overview of one or more jobs.

```
                BIM-EPIC/VSE ONLINE JOB ACCOUNTING FACILITY
.ALL                                                                  PAGE 02
JOB NAME   PHASE NAME  START DATE  START TIME   DURATION  CC  PT  AR  CPU ID
CATOJA      LNKEDT     11/17/1997   08:50:19    00:00:11  10  F4 002  444444
CATPRV      LNKEDT     11/18/1997   10:19:24    00:00:21  10  F7 002  333333
CATSDS      LNKEDT     11/18/1997   10:19:28    00:00:22  10  F8 002  333333
CICSEPIC    DTSANALS   11/18/1997   06:17:02    00:00:08  10  F2 002  222222
            IESWAITT   11/18/1997   06:17:10    00:00:14  10     000
            DFHSIP     11/18/1997   06:17:25    02:30:32  17     000
CICSEPIC    DTSANALS   11/18/1997   09:04:49    00:00:10  10  F2 000  222222
            IESWAITT   11/18/1997   09:05:00    00:00:04  10     000
            DFHSIP     11/18/1997   09:05:04    00:06:37  17     000
CICSEPIC    DTSANALS   11/18/1997   09:12:29    00:00:03  10  F2 000  222222
            IESWAITT   11/18/1997   09:12:33    00:00:01  10     000
            DFHSIP     11/18/1997   09:12:34    00:10:39  17     000
CICSEPIC    DTSANALS   11/18/1997   09:24:19    00:00:06  10  F2 000  222222
            IESWAITT   11/18/1997   09:24:26    00:00:02  10     000
CICSEPI3    DTSANALS   11/17/1997   08:19:40    00:00:52  10  F2 000  444444
            IESWAITT   11/17/1997   08:20:33    00:00:53  10     000
CICSICCF    DTSANALS   11/18/1997   06:07:49    00:00:03  10  F2 000  222222
            IESWAITT   11/18/1997   06:07:53    00:00:23  10     000
            DFHSIP     11/18/1997   06:08:16    00:03:37  18     000
CLEARRF     TSIDRFS    11/14/1997   10:47:16    00:00:01  10  F4 000  444444
               PF3=END  PF5=DETAIL  PF7=BACKWARD  PF8=FORWARD
```


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At the next level, the Program Overview panel displays an overview of the steps executed in a single job.

```
              BIM-EPIC/VSE ONLINE JOB ACCOUNTING FACILITY
.ALL                                                                          PAGE 02

 JOB NAME --------- CATSDS          PHASE NAME ---------- LNKEDT
 CPUID  ----------- 333333          PARTITION ----------- F8
 START DATE ------- 11/18/1997      END DATE ------------ 11/18/1997
 START TIME ------- 10:19:28        CPU TIME ------------ 00:00:01:5
 STOP TIME -------- 10:19:50        OVERHEAD ------------ 00:00:00:8
 DURATION  -------- 00:00:22        ALLBOUND ------------ 00:00:00
 CANCEL CODE (HEX) ------ 10        PHASE CODE -- L (S=STEP L=LAST)
                                    PHASE SEQ --- 0001
          ********** INPUT OUTPUT TABLES **********
   400      FEC      01F      140      141      142      160
 00000155 00000012 00000007 00000073 00000183 00000378 00000100
   173      FEE
 00000132 00000228


          ****************************************
  USER INFORMATION --------
  NUMBER OF AUDIT RECORDS FOR THIS PHASE -- 002
     USE PF5 TO VIEW AUDIT RECORDS

               PF3=END  PF5=DETAIL  PF7=BACKWARD  PF8=FORWARD
```

Finally, the Program Audit panel displays the datasets used by a single program.

```
      BIM-EPIC/VSE ONLINE JOB ACCOUNTING FACILITY
FILEID           REC CREATION OPEN      EXPIRY    SERIAL  REEL    END   DTF
PROCESSED       TYPE   TIME  CLOSE CUU   DATE    ACCEPTED TRACK  TRACK  TYPE
*******************************************************************************
3F8.IJSYSLN       DO 10:19:29  C   400 11/18/1997 EPV400  030474 010000  32
3F8.IJSYSLN       DI 10:19:47  C   400 11/18/1997 EPV400  030474 010000  32









                  PF2=BACKWARD             PF4=END
```

See BIM-EPIC Report Fields and Examples for additional information describing the fields displayed on these panels.

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Accessing Job Accounting Database

To access the Job Accounting Database:

Step	Action
1	From a CICS terminal, enter the TOJA transaction. The Job Selection panel displays.
2	To view all jobs, press Enter. To view several jobs beginning with the same character string, enter the string and press Enter. To view a single job, enter the job name and press Enter.

Navigating in TOJA

To navigate using TOJA:

Press	Action
F8	To move forward in a panel
F7	To move backward in a panel.
F5	To move to the next level of detail, place the cursor on the item you want to display.
ENTER	To move back a level of detail.
CLEAR or F3	To exit TOJA.

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Managing Tape Volumes

To protect controlled datasets effectively, BIM-EPIC controls the tape volumes where the controlled datasets reside. BIM-EPIC also protects the tape volume serial numbers. Every tape that contains a BIM-EPIC-controlled dataset is recorded in the DSN Catalog. Tapes are identified by volume serial number and controlled at the version level under the dataset name they contain. Tape volume serial numbers are cataloged individually, as they are used for controlled datasets or initialized with TSIDINIT. BIM-EPIC provides utilities to assist you in labeling, initializing, pooling, and vaulting controlled tapes. This chapter describes BIM-EPIC tape control and tape protection utilities.

Chapter Contents

Tape Utilities and Commands
Tape Controls
Tape Print Requirements
Tape Vaulting Processes
Tape Reports

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Tape Utilities and Commands

Tape Control and Protection Utilities

Tape Volume Serial Numbers

Every tape volume used to write a BIM-EPIC-controlled dataset must have a unique volume serial number. Even unlabeled tapes must be identified with their own volume serial numbers. This identification is essential for tape volume control.

Volume serial numbers can be any six-character combination of alphanumeric characters. Groups of volume serial numbers do not need to be consecutive; any unique volume serial number is valid. Tape pools are defined within volume serial number ranges. Therefore, it can be helpful to initialize pooled tape volumes with consecutive volume serial numbers.

Recognizing and Controlling Tape Volumes

When a tape volume is brought under BIM-EPIC control, BIM-EPIC gives the tape volume a special VOL1 label which identifies the volume as BIM-EPIC controlled and protects it against accidental overwrites.

BIM-EPIC looks for a controlled tape volume when performing Automatic Volume Recognition (AVR). First, BIM-EPIC looks for the special VOL1 label. If BIM-EPIC does not find the label, BIM-EPIC checks the DSN Catalog to see if the tape was created by CA-EPIC for CMS. If the tape was created by CA-EPIC for CMS, the volume is accepted. If the tape was not created by CA-EPIC for CMS, BIM-EPIC prompts the operator to specify a tape drive and requests the operator to verify the volume serial number of the tape on that drive.

Unlabeled tapes do not have this special VOL1 label. As a result, BIM-EPIC requires the operator to specify the drive containing the volume and to verify the volume serial number every time unlabeled processing is requested.

If an uncontrolled tape volume has a HDR1 label that has expired, BIM-EPIC can use the tape, but prompts the operator to verify the volume serial number. If that volume serial number duplicates a volume serial number already in the DSN Catalog, the operator is asked to enter a new volume serial number.

HDR1 Labels and Retention

BIM-EPIC writes an expiration date of 99365, indicating permanent retention on every HDR1 label created under BIM-EPIC control. This helps to protect the tape from being overwritten when EPIC is not active. BIM-EPIC uses the DSN Catalog, not the HDR1 label, to determine the volume status of each tape as active or scratch.

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Scratch Tapes

Scratch tapes are produced by the SCRATCH function of TSIDUTL, TSIDMNT, and Online Manager. TSIDUTL DSPLY SCRATCH produces a report listing of all available scratch tapes. TSIDUTL PSCRATCH creates a report projecting which tapes will be eligible for scratch on a certain date.

See the *BIM-EPIC Installation and System Guide* for additional information describing the TSIDUTL JCL requirements.

Tape Pooling

You can use tape pooling to group similar types of tapes into tape pools. For example, your ACL-resident tapes could constitute one pool, TPA tapes another pool, 3490E tapes a third pool, and so forth. Datasets are assigned to tape pools through the DSN Catalog. When a pooled dataset is created, BIM-EPIC automatically requests the operator to mount a scratch tape from the appropriate pool.

Tape pools are established using the TSIDPOL macro and the TAPPOL configuration option. Each pool is given a one-character pool ID, A to Z or 0 to 9, and is assigned one or more volume serial number ranges.

If a volume serial number falls within a pool range, the tape belongs to that pool. A pool tape can be used only to write datasets assigned to that pool. If a volume serial number does not fall in any of the defined ranges, the tape is not a pool tape. The volume serial number can be used only to write datasets that are not assigned to a tape pool.

Datasets can be assigned to tape pools through Online Manager, TSIDMNT CAT and UPD functions, or by using OPTION=TPL=*x* on a DD statement.

Tape Ownership

The tape ownership feature provides another form of tape volume association. Owner ID, a two-character code, is used as the first two characters in a volume serial number.

When a DSN/Job Cross-Reference report dataset is cataloged with an owner ID, it can be written only on tapes with volume serial numbers which begin with the specified owner ID code.

Tape ownership is different from tape pooling because a pool tape can be used only for datasets assigned to that pool. Tape ownership does not restrict the use of tapes in that way, only the serial number is restricted. The tape can be used for any dataset.

Specifying Tape Size

For reel tape volumes you can restrict datasets to small or large tapes with the size specification feature.

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Small tapes are distinguished by their volume serial numbers which must end with the character S. Large tapes have no restrictions to their volume serial numbers. You can designate that a dataset should be written to small tapes with online or manual catalog maintenance using the Tape Size field.

Revolving Tape Datasets

In some cases, you may want to use a specific set of tapes for a dataset to ensure all versions of that dataset are contained on that specific set of tapes only. This grouping is referred to as a revolving tape dataset.

The TSIDMNT CATALOG function or Online Manager CATALOG function contains the parameter REV that allows you to define revolving datasets.

Specifying REV=YES for a dataset establishes an exclusive relationship between the dataset and the tapes used by the dataset. A revolving tape can be used only to write its own dataset. A revolving tape dataset can be written only on its own tapes.

If the dataset is new or does not have enough volumes in its revolving set, you can use the Online Manager or TSIDMNT ADD function to add new tapes and then use SCRATCH to scratch the tapes. These volume serial numbers are now part of the datasets revolving set. Revolving tape datasets cannot be used for ACL-resident tapes.

Multi-Dataset/ Multi-Volume Processing

BIM-EPIC supports multi-dataset, multi-volume, and multi-dataset/multi-volume processing. A tape volume that contains a dataset that is a member of a multi-dataset group cannot be scratched until all datasets in the group have been scratched.

Work Tape Datasets

A work tape dataset has been cataloged with the attribute WRK=YES or defined with DISP=(NEW,DELETE) on a DD statement. A work tape dataset can be written on any available scratch tape. The data on a work tape is not usually saved after the end of the job in which the tape was created. Under normal conditions, there is no need to place an external dataset label on a work tape. For this reason, the EP005 message, **LABEL**, is not issued for work tapes unless configuration option EPS043=YES is used.

Assigning Tape Drives

BIM-EPIC uses Automatic Volume Recognition (AVR**)** to automatically search available tape drives for a required output or input tape volume whenever a program issues an OPEN request. When AVR locates the required volume, BIM-EPIC makes the necessary VSE assignment. When the program issues a CLOSE request, BIM-EPIC releases the assignment and makes the drive available to other programs unless directed otherwise by a parameter on the TLBL statement or DD statement.

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It is the responsibility of the operator to ensure that tape drives are available when BIM-EPIC searches for a tape. A tape drive is available if the drive:

- Contains a valid tape—a tape is considered valid if the volume serial number is in the DSN Catalog or the tape has been initialized by TSIDINIT or DITTO
- Is not in the *device down* status
- Is not attached to any virtual machine (if Autoattach is ON), or is attached to the machine running the job (if Autoattach is OFF)
- Is not assigned to any partition
- Is ready and at load point
- Supports the mode setting specified for the dataset

Under most circumstances, you do not need to make drive assignments with the VSE ASSGN statement. If Autoattach is on, you should avoid using VM/CP ATTACH or DETACH to control the tape drives. Instead, ensure that all drives are in the “detached” state and let BIM-EPIC do the work for you.

If Autoattach is on and you use VM/CP ATTACH, you must issue VM/CP DETACH for the tape drive when you are finished, so that BIM-EPIC can use the drive in another virtual machine.

BIM-EPIC uses AVR only for controlled tapes. If the required tape is not a BIM-EPIC-controlled tape, the operator will be prompted to specify the address of the tape drive to use.

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Attention Routine Commands

Description

Certain BIM-EPIC services can be invoked by commands that the operator issues through the VSE Attention Routine (AR).

Command Summary

The BIM-EPIC AR commands are:

Command	Description
EP ? (or EP HELP)	Displays help information for BIM-EPIC AR commands.
EP END ST*name*	Terminates a BIM-EPIC Dispatcher subtask. *name* is the name of the subtask being ended. **Note:** This command should be used only when directed by BIM-EPIC Technical Support.
EP END TASK	Ends BIM-EPIC Dispatcher processing.
EP REW,*cuu*	Rewinds the selected tape drive.
EP RUN,*cuu*	Unloads the selected tape drive.
EP STATUS[,*cuu*]	Displays status of all accessible tape drives or of a particular tape drive.
EP TRACEACLON EP TRACEACLOFF	Starts or stops a trace of BIM-EPIC ACL routines. **Note:** This command should be used only when directed by BIM-EPIC Technical Support.
EP TRACEON=*xx* EP TRACEOFF=*xx*	Starts or stops a trace of BIM-EPIC routines. *xx* is the partition ID where the trace will run. **Note:** This command should be used only when directed by BIM-EPIC Technical Support.
EP TRQ CANCEL *n*	Deletes a work request that has not been processed by the BIM-EPIC Dispatcher. The variable *n* is the identification number of the request to be deleted. It is obtained using the EP TSTAT command.
EP TSTAT	Displays any work requests waiting to be processed by the BIM-EPIC Dispatcher.

Entering Commands

BIM-EPIC AR commands must begin with EP followed by a space. For example, the following command unloads a tape on drive 881.

```
EP RUN,881
```

EP930 Message

When using EP commands the warning message EP930 UNABLE TO OBTAIN LOCK - COMMAND BYPASSED may be issued on some systems when heavy activity is occurring, particularly when two physical

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CPUs are active with SHARE=YES. Because an AR cannot wait for a successful lock, BIM-EPIC issues this warning message when it cannot obtain a lock immediately. If you receive this warning message, try the command again.

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FREE and STATUS Commands

Description

In addition to providing status information using Attention Routine (AR), BIM-EPIC also allows the operator to respond with FREE or STATUS to many BIM-EPIC messages.

The FREE command lists all tape drives that are:

- In READY status or with no tape mounted
- Not assigned to any partition
- Not attached to any other machine

The STATUS command lists the current status of each tape drive.

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Tape Controls

Mounting Tapes

Description

BIM-EPIC controls which tapes can be used for output. BIM-EPIC checks the volume serial number of every tape processed. If the tape mounted is controlled, its volume serial number is checked with its corresponding DSN Catalog entry to ensure that the tape is in scratch status before being used as output.

If the tape is uncontrolled, BIM-EPIC checks to determine if the volume serial number exists in the DSN Catalog. If the volume serial number does not exist, the tape is cataloged and used automatically if configuration option EPS033 is not set to YES. If the volume serial number exists in the catalog, BIM-EPIC issues a message to allow the operator to enter a new volume serial number.You do not need to pre-initialize the tapes to put them under BIM-EPIC control.

This is not true for ACL-resident tapes. These volumes must have been pre-processed by one of the following methods:

- Initialized by the TSIDINIT utility
- Added to the catalog using Online Manager or TSIDMNT and setting configuration option EPS033=YES

See the *BIM-EPIC Installation and User Guide* for detailed information on adding volumes to a catalog using Online Manager or TSIDMNT and setting configuration option EPS033=YES.

Configuration option UNCTAP affects uncontrolled tape handling.

Requesting a Previous Version

To request the previous version of a dataset, type RERUN in response to a request for a tape mount. A new tape mount request will be issued for the previous version.

Example

If a tape mount request is issued for version 1 and you reply RERUN, a new request is issued for version 2. You can reply RERUN as many times as there are versions for the dataset.

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Requesting a Specific Version

To request a specific version, type RERUN,*n* in response to a request for a tape mount, where *n* is the number of the version requested.

Example

To issue a new tape mount request for version number 3, type RERUN,3.

Using ACCEPT

The operator has the option to reply with ACCEPT to a mount request to force BIM-EPIC to use any desired volume. Each time ACCEPT is used, a notation is made in the TSIDBRP Accepted Tapes report. The use of the ACCEPT reply is governed by the ACCEPT configuration option.

WARNING:
ACCEPT=YES disables BIM-EPIC's supervision of the input process and places responsibility for tape selection in the hands of the operator.

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Initializing Tapes for BIM-EPIC Control

Description

TSIDINIT initializes tapes with BIM-EPIC VOL1 labels and enters the labels in the DSN Catalog under the dataset name ***.VOLUME.DSN.***. The tapes can then be used as controlled scratch tapes.

Up to 10 tape drives can be used in the initialization process.

TSIDINIT can be executed from JCL or from the operator console. If TSIDINIT is executed from the console, the operator is prompted for all processing information.

To execute from the console, after any VSE '// PAUSE' statement, type the following command:

```
EXEC TSIDINIT
```

JCL Requirements

The following is an example of the JCL requirements for initializing tapes for BMI-EPIC control.

```
// UPSI xxxx
// EXEC TSIDINIT [,PARM='CONSOLE']
            or
// EXEC TSIDINIT [,PARM='ACL=aclname[,COUNT=nnnnn]']

         cuu statement
         volser statements
/*
```

UPSI Values

The following UPSI values can be used to initialize tapes for BIM-EPIC control.

Value	Function
1xxx	Specifies sequential initialization
0xxx	Specifies random initialization
x1xx	Specifies forced initialization
xxx1	Specifies scratch tape reinitialization
xx1x	Specifies inclusion of the cuu statement
x0101	Specifies use of an ACL for initialization

Types of Initialization

When you want to initialize more than one tape, you can specify the tape volume serial number for each tape in individual control statements, in any order. This format is referred to as random initialization. Or, if you specify the starting volume serial number, TSIDINIT will initialize successive tapes in ascending volume serial number sequence. This format is referred to as sequential initialization.

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In sequential initialization, TSIDINIT continues to initialize tapes until the operator replies STOP to the mount message.

Sequential initialization requires the last four characters of the volume serial number be numeric, for example, EP1200 or A67019. Random initialization places no restrictions on the volume serial number.

TSIDINIT normally checks the actual volume serial number of each tape before writing to the tape to ensure that an active tape is not initialized by mistake. This check also protects against the creation of duplicate volume serial numbers. If one of the specified volume serial numbers already exists in the DSN Catalog, BIM-EPIC issues an error message and requests a new volume serial number.

Forced initialization is used if you are initializing new tapes that have not been previously initialized. Forced initialization directs TSIDINIT to bypass any attempt to read data from the volume and to immediately initialize the volume with the requested volume serial number.

WARNING:
Forced initialization should be used with caution because it bypasses tape label checking. This may cause active data to be lost if the wrong tape is mounted. If the volume serial number already exists in the DSN Catalog, TSIDINIT issues an error message. The resulting tape will contain only tape marks.

If it is necessary to reinitialize a tape that is currently in scratch status, execute TSIDINIT with UPSI *xxx*1.

If the initialization process is for ACL-resident tapes:

- PARM='CONSOLE' cannot be used. The cuu and volume serial information must be submitted via SYSIPT statements.
- PARM='ACL=*aclname*' or PARM='ACL=*aclname*,COUNT=*nnnnn*' must be present on the // EXEC statement.
- Random initialization, sequential initialization, and forced initialization are permitted. Forced initialization should be used with caution. If a volume serial number should accidentally be specified for an existing volume serial number containing an active dataset or if the volume serial number is owned by another operating system or machine, EPIC will initialize the volume serial number and its existing data will be lost.
- If multiple ACLs are present, only one ACL can be used in a TSIDINIT execution. If concurrent TSIDINIT executions are to be done, each execution should specify a different ACL name.

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- For non-virtual ACLs, a robot reads the cartridge barcodes. This requires the volume serial numbers specified to TSIDINIT match the appropriate barcodes.

Parameters

PARM='CONSOLE' can be specified on the VSE EXEC statement to allow the operator to control initialization from the console. This has the same effect as entering EXEC TSIDINIT after a VSE // PAUSE' statement.

```
PARM='ACL=aclname[,COUNT=nnnnn]'
ACL= must precede COUNT=
```

Definitions

The following provides definitions for the parameters you can use when initializing tapes.

Parameter	Definition
aclname	Designates the ACL to use for initialization. The *aclname* must be same as the ACLNAME parameter used in defining the cuu in the EPIC Resource Dataset (ERD).
COUNT	Designates the number of volumes to initialize. Use COUNT only in sequential initializations. COUNT is ignored if present for random initializations. A maximum of 99,999 volumes can be initialized in a TSIDINIT execution. When deciding the number of volumes to initialize in one execution, consider the time involved in robotic mount/demount activity.

CUU Statement

Under normal conditions, the operator is prompted to specify which tape drives to use. Up to ten drives can be specified. However, if specific tape drives should not be used, a cuu statement can eliminate operator intervention.

If an ACL is used, operator intervention is not required. After a volume is initialized, the volume is unloaded via a RUN command. After the RUN completes, a robot "return to slot" action takes place. During this time, another mount cannot take place until the return action is finished. It is recommended that a minimum of two and no more than three drive addresses (cuu) be used during a TSIDINIT execution.

The operator must verify that the ACL device addresses specified in the cuu statements are not in use when TSIDINIT executes.

If the action takes place in a VM environment, the device addresses must not be attached to a guest machine other than the machine in which TSIDINIT executes. If unattached, TSIDINIT will attach the device addresses when it begins execution and detach the devices when finished executing.

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Syntax

The following is an example of a cuu statement syntax.

`CUU=cuu,cuu,cuu,...`

The cuu statement requires UPSI *xx1x* in the JCL.

VOLSER Statements

VOLSER statements identify which volume serial numbers are written in the VOL1 label.

If random initialization is requested, one VOLSER statement is required for each volume serial number. If sequential initialization is requested, use only one statement to specify the starting volume serial number.

Examples

The following example shows how TSIDINIT performs sequential initialization of uncontrolled tapes that have labels or tape marks. TSIDINIT initializes the first tape with the volume serial number EP0001, the second tape with the volume serial number EP0002, the third tape with the volume serial number EP0003, and so on until the operator stops the process. In addition, TSIDINIT does label checking to ensure that the tape does not contain an active dataset and then checks the DSN Catalog to ensure that there is no duplication of the volume serial number before initializing each tape.

```
// JOB INITTAPE
// UPSI 1000
// EXEC TSIDINIT
    EP0001
/*
/&
```

The following example shows how TSIDINIT performs random initialization of uncontrolled tapes that do not have labels or tape marks. TSIDINIT initializes the first tape with the volume serial number PR0001, the second tape with the volume serial number PR0024, the third tape with the volume serial number PR0047. TSIDINIT does not prevent duplication of the volume serial number and does not perform label checking to ensure that the tapes mounted are valid scratch tapes.

```
// JOB INITTAPE
// UPSI 0100
// EXEC TSIDINIT
    PY0001
    PY0024
    PY0047
/*
/&
```

The following example shows how TSIDINIT uses an ACL to do sequential initialization of tapes not in the BIM-EPIC Catalog that have labels or tape marks. TSIDINIT initializes the first tape with volume serial number SR0010, the second with the volume serial number SR0011, and so on until 10 volumes have been initialized, for example, SR0010 through SR0019.

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```
// JOB INITTAPE
// UPSI 10101
// EXEC TSIDINIT,PARM='ACL=B1VTS,COUNT=10'
    CUU=480,481
    SR0010
/*
/&
```

The following example shows how TSIDINIT uses an ACL to do random initialization of tapes not in the BIM-EPIC Catalog that have labels or tape marks. TSIDINIT initializes the first tape with volume serial number JCSR09, the second with WXY981, and so on until all volume serial number specifications have been read.

```
// JOB INITTAPE
// UPSI 00101
// EXEC TSIDINIT,PARM='ACL=A2ATL'
    CUU=480,481
    JCSR09
    WXY981
    …..
    …..
/*
/&
```

The following example shows how TSIDINIT uses an ACL to do random initialization of tapes not in the BIM-EPIC Catalog that do not have labels or tape marks or those created as the result of forced initialization. TSIDINIT initializes the first tape with volume serial number JCSR09, the second with WXY981, and so on until all volume serial number specifications have been read.

```
// JOB INITTAPE
// UPSI 01101
// EXEC TSIDINIT,PARM='ACL=A2ATL'
    CUU=480,481
    JCSR09
    WXY981
    …..
    …..
/*
/&
```


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Tape Print Requirements

Printing External Volume Serial Labels (TSIDLBL)

Description

TSIDLBL creates external volume serial number labels in large block characters. These labels contain the volume serial number and a short comment, which is optional.

Standard spacing for each label is one line for the comment, seven lines for the volume serial number, and two blank lines between labels.

Example

The following is an example of a volume serial number label.

```
THIRTY CHARACTER COMMENT
****      ****      ****       ****       ****       *
*         *  *      *  *       *  *       *  *      **
*         *  *      *  *       *  *       *  *       *
****      ****      *  *       *  *       *  *       *
*         *         *  *       *  *       *  *       *
*         *         *  *       *  *       *  *       *
****      *         ****       ****       ****       *
```

JCL Requirements

The following is an example of the JCL requirements for printing external volume serial labels manually.

```
[// UPSI 1]
// EXEC TSIDLBL
control statements
/*
```

UPSI Value

UPSI 1 causes the printer to skip to channel 1, top-of-form, after each label. This allows you to use labels of any size. When UPSI 1 is used, TSIDLBL assumes that the printer has a correctly loaded forms control buffer or carriage control tape that defines the size of the labels.

Syntax

The following is an example of a request for external volume serial number labels.

volser[-*volser*] [*comment*]

Parameters

The following provides a description of the parameters you can use when printing external volume labels.

Parameter	Required?	Valid Entry	Default
volser-volser	Yes	1 to 6 characters	None
comment	No	1 to 30 characters	None

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Definitions

The following provides definitions for the parameters you can use when printing external volume labels.

Parameter	Definition
volser [*-volser*]	Specifies the range of volume serial numbers for the labels you want to create. If you want to create only one label, omit the hyphen and second *volser*. The last four characters in the volume serial number must be numeric.
comment	Specifies the comment to be printed on each label.

Example

The following is an example showing how EP0001-EP0100 DSN CONTROLLED indicates that one label is to be created for each volume serial number from EP0001 to EP0100, inclusive. Each label in this series will contain the comment DSN CONTROLLED.

PR0001-PR0050 PAYROLL indicates that one label is to be created for each volume serial number from PR0001-PR0050, inclusive. Each label in this series will contain the comment PAYROLL.

```
// JOB PRINTLBL
// EXEC TSIDLBL
EP0001-EP0100 DSN CONTROLLED
PR0001-PR0050 PAYROLL
/*
/&
```

Printing Labels Automatically

With BIM-EPIC, you can create external labels automatically when datasets are opened for output.

You can create labels in a batch partition or through CICS. TSIDBPR creates labels in a batch partition. TSIDPRT creates labels through CICS.

Automatic label creation requires you to write a subroutine. See the *BIM-EPIC Installation and System Guide* for installation and subroutine requirements. External label creation is enabled using the RMNTPRT configuration option.

Creating Labels in a Batch Partition

You can execute TSIDBPR in any partition. However, you must use a partition which is not needed for other jobs, since TSIDBPR remains active in that partition until it is deactivated.

To deactivate TSIDBPR, execute TSIDPEN in any partition. This terminates TSIDBPR and releases the label printer.

Creating Labels in CICS

TSIDPRT can be activated automatically through the CICS PLTPI table.

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If TSIDPRT is not activated using the PLTPI, enter the TPRT transition from a CICS terminal. When you activate TSIDPRT using this method, the terminal you use is not released until the TPRT is deactivated or until CICS is terminated.

To deactivate TPRT, execute TSIDPEN in any available partition. This releases the label printer and any terminal used by TPRT.

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Tape Vaulting Processes

Tape Vaulting

Description

The BIM-EPIC vaulting subsystem controls tape vaulting automatically. This section presents an overview of the programs and procedures involved with tape vaulting.

Components

Vault locations are established using the VAULTDEF macro, which defines the name and, if necessary, the size of each vault and the number of slots each vault contains. Vaults are identified by integers. BIM-EPIC assigns vault numbers to each vault in the sequence defined by the VAULTDEF macro.The first vault is referred to as Vault 0 (zero) and/or Main Vault.

Vaulting methods are established using the METHOD macro. Each method defines a distinct sequence of vault locations for all versions of a dataset vaulted with that method.

VAULTDEF and METHOD are documented in the *BIM-EPIC Installation and System Guide*.

Using Vaulting

A dataset is designated for vaulting using its DSN Catalog definition. If a dataset has a method specified, the associated versions are vaulted automatically whenever the vault movement program is run.

TSIDVLT moves cataloged tape volumes to their new vault locations and slot numbers if defined. In addition, TSIDVLT creates two vault movement reports. Sorted by vault location, each report lists only the tapes which need to be moved.

The two vaulting reports are:

Report	Displays...
Picking List	Tapes listed by their current vault and slot location and indicating the vault and slot destination where each tape is to be moved.
Receiving List	Tapes listed by their newly assigned vault and slot destinations and indicating the current vault and slot where each tape can be found.

Vaulting ACL Cartridges

If a non-virtual Automated Cartridge Library (ACL) is supported, TSIDVLT also writes the volume serial numbers of all cartridges moved

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from Vault 0 in the BIM-EPIC ACL Inventory Management library member. At a later time, these volumes can be ejected from the ACL using EP ACL EJECT command or TSIDUTL ACLEJECT function. See the *BIM-EPIC Installation and System Guide* for additional information.

Additional Reports

Reports listing current vault inventories can be created using TSIDUTL.

TSIDPRV creates a report that cross-references datasets with the vaulting methods assigned to them.

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Assigning Vaulting Methods to Datasets

Description

After vaults and vaulting methods have been defined, the methods must be assigned to datasets before automatic vaulting can occur. Vaulting methods are assigned to datasets using Online Manager or TSIDMNT CATALOG or TSIDMNT UPDATE functions.

- If you are using Online Manager, place the vault method number in the Vault Method field of the BIM-EPIC dataset definition (EDD).
- If you are using TSIDMNT, use the VLT parameter to supply the vault method number to the EDD.

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Moving Volumes (TSIDVLT)

Description

TSIDVLT creates movement reports when moving tapes from one vault to another. TSIDVLT should be executed daily. TSIDVLT can be instructed to:

- perform actual vaulting actions. A report is produced describing the vault movements that occurred.
- perform projected vaulting actions. A report is produced describing what movements would take place, but no actual vault/slot movement occurs.

JCL Requirements

The following is an example of the JCL requirements for moving volumes.

```
// DLBL SORTWK1...
// EXTENT SYS001
// EXEC TSIDVLT
control statements
```

Control Statements

Four input control statements are provided to tell TSIDVLT what action to take. The control statements are read from SYSIPT and can begin in any column. Only one control statement can be used in an execution of TSIDVLT. A control statement must be present; however, there is no default.

Control Statement	Function
MOVESLT	Performs vault movement and produces a report sorted by vault and slot number
MOVESER	Performs vault movement and produces a report sorted by volume serial number
PROJSLT	Performs no vault movement, but produces a report of what movement would occur, sorted by vault and slot number
PROJSER	Performs no vault movement, but produces a report of what movement would occur, sorted by volume serial number

Dataset Requirements

SORTWK1 is required.

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Example

The following is an example of a TSIDVLT control statements.

```
// JOB VAULTMOV
// DLBL SORTWK1,'===.SORTWK1,(D)'
// EXTENT SYS001
// EXEC TSIDVLT
MOVESLT
/*
/&
```


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Reporting Current Locations of Vaulted Tapes

Description

The TSIDUTL DSPLY function creates reports which provide vault information for tape volumes. These reports can select and display tape datasets by vault.

Parameter	Action	Example
ALL	Lists vault information for all tape datasets.	DSPLY ALL,SEQ=DSN
VAULT	Lists the tapes contained in every vault except vault 0 (main library). When SEQ=VAULT is specified, tapes are listed in vault and slot sequence. A page break occurs after each vault.	DSPLY VAULT,SEQ=VAULT
VLT	Lists the contents of a single vault.	DSPLY ALL,VLT=2,SEQ=DSN

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Manually Controlled Vaults

Description

A manually controlled vault is any vault whose number is greater than the value of the AVAULTS parameter in the VAULTDEF macro. Since BIM-EPIC does not recognize manually controlled vaults, the vaults must be manually maintained by the user.

Any version of any dataset can be moved to a manually controlled vault. Tapes are moved to or from manually controlled vaults using the Online Manager or TSIDMNT MOVE function.

WARNING:
If a dataset is under the control of an automatic vaulting method, TSIDVLT executions override any manual vaulting.

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Vault To Dataset Cross-Reference Report (TSIDPRV)

Description

TSIDPRV produces the Vault Method report. This report lists the vaulting method for each dataset, in dataset name sequence. For a dataset to appear on this report, the dataset must have a vaulting method assigned to it in the DSN Catalog.

JCL Requirements

The following is an example of the JCL requirements for creating a Vault to Dataset Cross-Reference report.

```
// DLBL SORTWK1...
// EXTENT SYS001
// EXEC TSIDPRV
```

UPSI Values

There are no UPSI values.

Dataset Requirements

SORTWK1 is required.

Example

The following is an example of the dataset requirements using SORTWK1.

```
// JOB VLTMETH
// DLBL SORTWK1'===.SORTWK1,(D)'
// EXTENT SYS001
// EXEC TSIDPRV
/&
```


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Tape Reports

Dataset to Tape Report (TSIDDIS)

Description

TSIDDIS produces a summary report correlating dataset versions and tape volume serial numbers. The summary is listed in dataset name order and contains one entry for each dataset version. If a version spans more than one volume, there is an entry for each volume. See Appendix A, “TSIDDIS Report,” for an example of the TSIDDIS report.

JCL Requirements

The following is an example of the JCL requirements for creating a Dataset to Tape report.

```
// DLBL SORTWK1
// EXEC TSIDDIS
```

UPSI Values

There are no UPSI values.

Dataset Requirements

SORTWK1 is required.

Example

The following is an example of the dataset requirements using SORTWK1.

```
// JOB TAPE DATASET LISTING
// DLBL SORTWK1,'==.SORTWK1'
// EXTENT SYS001
// EXEC TSIDDIS
/&
```


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Tape to Dataset Report (TSIDSDS)

Description

TSIDSDS produces a summary report correlating dataset versions and tape volume serial numbers. The summary is in volume serial number sequence and contains at least one entry for each version of a dataset. If a version spans more than one volume, there is an entry for each volume. See Appendix A, “TSIDSDS Report,” for an example of the TSIDSDS report.

JCL Requirements

The following is an example of the JCL requirements for creating the Tape to Database report.

```
// DLBL SORTWK1
// EXEC TSIDSDS
```

UPSI Values

There are no UPSI values.

Dataset Requirements

SORTWK1 is required.

Example

The following is an example of the dataset requirements using SORTWK1.

```
// JOB TAPE VOLSER LISTING
// DLBL SORTWK1,'==.SORTWK1'
// EXTENT SYS001
// EXEC TSIDSDS
/&
```


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Disk Space Management

This chapter discusses how BIM-EPIC can help you to maximize and manage your disk space.

Chapter Contents

Datasets
VTOC
Offload and Onload

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Datasets

Dataset Fragmentation

Description

When you create a dataset with a large primary allocation, there may not be enough contiguous free space in the pool to contain the entire primary allocation. BIM-EPIC responds to this condition by allocating the largest amount of contiguous free space to the primary extent and allocating secondary extents, as necessary, when the primary extent becomes full. This process is called dataset fragmentation.

Automatic dataset fragmentation can be enabled globally by specifying the configuration option FRAG=YES. Dataset fragmentation can be enabled for an individual dataset by:

- Specifying option code F on a DLBL statement
- Specifying the MXIG subparameter or ALX subparameter in the SPACE parameter on a DD statement
- Allowing the operator to respond with the FRAG command to the EP038 message

Secondary Allocation

BIM-EPIC automatically allocates secondary extents to eligible datasets when the primary extent has been filled.

Secondary extent allocations are not available for direct access or TYPEFLE=WORK datasets. Secondary extent allocations are available for SORTWK datasets only if the SORT program being used specifically allows it.

For cataloged datasets, you can specify the size of the secondary extents and a maximum number of up to 255 secondary extents. If you use DD statements for your disk datasets, the size of the secondary extents can be specified in the SPACE parameter with the maximum number of secondary extents specified in the VOLUME parameter. If you do not define a secondary extent allocation requirement using one of these methods, BIM-EPIC automatically allocates up to 255 secondary extents. Each extent will be one-half the size of the primary extent.

Truncation

At close, any allocated extent that was not completely filled can be truncated so that the unused portion of the extent is freed. BIM-EPIC performs truncation for controlled datasets by altering both the VTOC and the DSN Catalog to show only the space actually used. Extents are always truncated on track or control interval boundaries.

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Truncation occurs only on output for sequential disk datasets and is automatic for datasets defined with DLBL statements. However when using BIM-EPIC DD statements, truncation must be requested using the RLSE subparameter of the SPACE parameter.

Truncation should be inhibited for TYPEFLE=WORK DTFs and for datasets that are opened as sequential I/O but are not accessed sequentially, for example, DL/1 datasets

Truncation can also be inhibited using the DLBL option code N.

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Converting Uncontrolled Disk Datasets

Description

Existing uncontrolled disk datasets can be placed under BIM-EPIC control. Any existing dataset can be controlled as long as all the associated extents reside in a single-disk pool that is defined to BIM-EPIC. You can convert a disk dataset to catalog control or Start Track 1 control.

Converting to a Disk Dataset Procedure

To convert a disk dataset to catalog control:

Step	Action
1	Catalog the dataset name as a work file. You can use Online Manager and specify WRK on the Define an EDD panel or you can use TSIDMNT CATALOG function and specify WRK=YES parameter.
2	Renumber the dataset extents using the TSIDVUT RENUM function. (BIM-EPIC-controlled disk files must begin with extent sequence number 1.)
3	Change the dataset VTOC expiration date to permanent using TSIDVUT RETAIN function. Catalog-controlled disk files are scratched according to the retention criteria specified in the EDD, not the VTOC expiration date.
4	Add the version to the DSN catalog using Online Manager or TSIDMNT ADD functions. Be sure to specify the block size, if it is known.
5	Update the file type from WRK to GEN using the Online Manager or the TSIDMNT UPDATE function, if generation retention for the dataset has been specified.This must be done *after* the step 4 has been successfully completed.

Converting to Start Track 1 Procedure

To convert a disk dataset to Start Track 1:

Step	Action
1	Renumber the dataset extents using TSIDVUT RENUM. BIM-EPIC-controlled disk files must begin with extent sequence number 1.
2	If necessary, change the dataset VTOC expiration date using TSIDVUT RETAIN. Expired files in a BIM-EPIC disk pool are eligible for immediate reallocation.
3	In all JCL that refers to the dataset, change the dataset EXTENT statements to specify a starting track of 1 or the number specified in the STRTRK configuration option.

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Example

The following is an example of converting a Start Track 1 dataset.

```
// EXTENT SYS001,POOL50,1,0,1,10
```


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Placing Datasets on Specific Volumes in a Pool

Description

All disk datasets can be assigned to a BIM-EPIC pool. If your pool is made up of more than one volume, BIM-EPIC can allocate a version of the dataset on any of those volumes.

Procedure

To allocate a disk dataset to a specific volume:

Step	Action
1	QUIESCE all other volumes in the pool.
2	Create the dataset and inhibit truncation.
3	Reuse the same space when re-creating the dataset. See Chapter 7, “Reusing Space,” for additional information.
4	ONLINE the “quiesced” volumes.

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VTOC

VTOC Utilities

Description

BIM-EPIC provides the following VTOC utilities:

- TSIDLVT displays VTOCs by BIM-EPIC pool sequence, volume sequence, extent sequence, or dataset sequence. In addition, VTOCs can display both active and expired datasets or active datasets only.
- TVTO is a CICS transaction that displays VTOCs by volume only.
- TSIDVUT allows modification of existing VTOC entries. TSIDVUT can delete active datasets, retain a dataset permanently, rename a dataset, or converts an uncontrolled dataset to BIM-EPIC control. See the *BIM-EPIC Installation and System Guide* for additional information.

WARNING:
Use TSIDVUT to update the entries of uncataloged datasets only.

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VTOC Listings (TSIDLVT)

Description

TSIDLVT produces printed reports of VTOC entries. TSIDLVT can display entries for all volumes in a BIM-EPIC pool or a specific volume.

TSIDLVT prints expired datasets, unexpired datasets, and free space. Extents are shown in track/block format and dates in *mm/dd/yyyy* format. Control statements can be used to change the display format.

At the end of each report, TSIDLVT prints the total free space in the pool or volume. This total includes expired extents as well as unused space.

JCL Requirements

The following is an example of the JCL requirements for creating a VTOC Listings report:

```
// DLBL SORTWK1,...
// EXTENT SYS001
// EXEC TSIDLVT
  control statements
/*
```

UPSI Values

There are no UPSI values.

Dataset Requirements

SORTWK1 is required for all functions.

Control Statements

You must include at least one control statement per report. The control statement must specify the volume or pool to display.

The EXP, UNEXP, and FREE parameters limit the contents of your report. You can use control statement parameters to customize the report. For example, to list only unexpired datasets, your control statement should specify:

```
SER=SYSWK1,UNEXP
```

To receive a report containing only expired datasets and free space, use a control statement similar to:

```
SER=SYSWK1,EXP,FREE
```

If none of these parameters are specified, all three types of data will appear on the report.

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Control Statement Parameters

The following provides an example of the control statement parameters.

```
{SER=volser | poolname}

   [ ,EXP ]
   [ ,UNEXP ]
   [ ,FREE ]
   [ ,DSN ]
   [ ,INPOOL ]
   [ ,EURO ]
   [ ,CCHH ]
   [ ,SUM ]
```

Parameters

The following provides a description of the parameters you can use with TSIDLVT.

Parameter	Required?	Valid	Default
One of the following two is required:			
volser	No	1 to 6 characters	None
poolname	No	1 to 6 characters	None
EXP	No		OFF
UNEXP	No		OFF
FREE	No		OFF
DSN	No		OFF
INPOOL	No		OFF
EURO	No		OFF
CCHH	No		OFF
SUM	NO		OFF

Definitions

The following provides definitions for the parameters you can use with TSIDLVT.

Parameter	Definition
volser	Specifies the disk volume serial number.
poolname	Specifies the name of the BIM-EPIC disk pool.
EXP	Prints expired datasets.
UNEXP	Prints unexpired datasets.
FREE	Prints free space.
DSN	Prints in dataset name sequence.The default listing is in EXTENT sequence. DSN is ignored if FREE is specified.
INPOOL	lists entries whose extents are within the BIM-EPIC Pool definition for the volume or volumes. If INPOOL is not specified, TSIDLVT lists the entire VTOC.

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Parameter	Definition
EURO	Prints dates in European format (*dd/mm/yyyy*). By default dates are printed in USA format (*mm/dd/yyyy*).
CCHH	Prints extents in cylinder/head (cchh) format. If cchh is not specified, extents will be shown in relative track/block format.
SUM	Skips detailed VTOC information and prints only summary information for the VOLSER or POOL.

Note:
You must specify either SER=*volser or poolname*.

Examples

The following example creates a report of the VTOC of volume SYSWK1.

```
// JOB VTOC
// DLBL SORTWK1,'===.SORTWK1,(X)'
// EXTENT SYS001
// EXEC TSIDLVT
  SER=SYSWK1
/*
/&
```

The following example creates two reports. The first report prints the standard report for all volumes in POOL50. The second report lists only unexpired and expired datasets for all volumes in POLFBA. The datasets are listed in dataset name sequence.

```
// JOB VTOC
// DLBL SORTWK1,'===.SORTWK1,(X)'
// EXTENT SYS001
// EXEC TSIDLVT
  POOL50
  POLFBA,UNEXP,EXP,DSN
/*
/&
```


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Online VTOC Displays

Description

The TVTO CICS transaction displays information about entries found in the VTOC on a specific DASD volume.

TVTO consists of the following characteristics:

- Is a pseudo-conversational transaction
- Can be utilized only on an 80-character wide screen
- Will utilize 31-bit storage for the majority of the work areas it uses, if available
- Will automatically utilize the alternate screen size if larger than the default screen size

Syntax

The following are several VTOC syntax examples that will produce different outputs:

```
TVTO          (<=== displays the TVTO HELP screen)
```

or

```
TVTO cuu      (<=== displays the VTOC screen)
```

or

```
TVTO volser   (<=== displays the VTOC screen)
```

Help Screen

The following is an example of a VTOC Help screen.

```
CUU ??? <== Enter CUU or set cursor at desired entry (PF3=END)     Pool: ALL

 Name|Area|Space|Cdate|Edate: AREA   Cyl|Trk: TRK  High|Size: SIZE  Expire:
YES
 140=DOSRES
 141=SYSWK1
 142=FBA001
 160=CKD001
 161=CKDP11
 162=CKDP12
 163=CKDP13
 164=CKDP14
 165=CKDP15
 172=VSEPWR
 173=VSELBL
 174=VSEPAG
 178=VSEPW2
 179=FBAP11
 17A=FBAP12
 17B=FBAP13
 17C=FBAP14
 17D=FBAP15
 400=EPV400
 402=VDI402
```

The Help screen is displayed when only the TVTO transaction ID is entered from a blank CICS screen, whenever an invalid request is

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attempted, or by pressing F1/PF1 from the VTOC screen. Error and informational messages are displayed on the top screen line just to the right of the CUU field. Pressing F3/PF3 from the Help screen terminates the TVTO transaction and returns control to CICS with a blank screen.

The right-most fields on screen line 1 and screen line 2 display all the current settings which control the manner and sequence for entries that will display on the VTOC screen.

Definitions

The following provides definitions for the fields located on the VTOC screen.

Parameter	Definition
POL	Controls which DASD entries will be displayed on the Help screen. In addition, Pool controls whether disk pool information, extracted from the current TSIDPOL phase, will be included in the VTOC display. **Note:** Disk pool information will be included in the VTOC display only when an AREA or NAME sort sequence is chosen. See the *BIM-EPIC Installation and System Guide* for additional information on TSIDPOL phases.
ALL	Indicates only DASD entries that are members of *any* disk pool will be displayed on the Help screen. You must include both the lower limits and upper limits for *every* disk pool containing space on the requested volume on the VTOC screen (may also be specified as YES, Y, or A).
NONE (Default)	Ignores all disk pool information. All DASD entries defined to this VSE system will be displayed on the Help screen. No pool limits will be displayed on the VTOC screen (may also be specified as NO or N).
Poolname	Includes only disk pool information for this poolname. Only DASD entries defined to this VSE system that are also members of this poolname will be displayed on the Help screen. Only the lower and upper limits for this poolname will be displayed on the VTOC screen.
Name|Area|Space|Cdate|Edate	Controls the VTOC screen sort sequence. Enter only the first letter of each choice: ■ Name sorts entries by file name ■ Area (default) sorts entries by starting location ■ Space sorts entries by size (space occupied) ■ Cdate sorts entries by creation date ■ Edate sorts entries by expiration date

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Parameter	Definition
Cyl|Trk	Controls the display of disk addresses for CKD devices only. Enter only the first letter of each choice: ■ Cyl (default with EPS065=NO) displays disk addresses in cylinder-head format ■ Trk (default with EPS065=YES) displays disk addresses in track format
High|Size	Controls the display to show either the high disk address or the size occupied. The display also shows the starting, or low, disk address. High is incompatible when requesting the VTOC Space screen sort sequence and will be reset automatically to Size when that screen sort sequence is requested with High. Enter only the first letter of each choice: ■ High displays high disk address in addition to the starting or low disk address ■ Size (default) displays size occupied in addition to the starting or low disk address
Expire	Controls the inclusion of expired entries in the VTOC display. Enter only the first letter of each choice: ■ Yes (default) includes expired entries, which are flagged with an asterisk between the creation date and expiration date ■ No excludes expired entries and shows that space as available space, indicated as Free.Space

Screen lines beginning with screen line 3 are divided into 7 columns and contain a list of all DASD entries available for display. These entries will be filtered by any specification, except NONE, at the POOL field on screen line 1.

You can type the device address (cuu) of your choice on the first screen line just to the right of the constant device address or position the cursor on one of the available DASDs and press Enter. To refresh the list of available DASDs displayed based on a new poolname, enter the desired poolname to the right of the constant POOL, clear any value found to the right of the constant cuu, and press Enter. Available DASDs are shown as *cuu=volser* in up to 7 columns beginning on screen line 3.

VTOC Screen

The VTOC screen displays when the TVTO transaction ID and either a CUU or VOLSER are entered from a blank CICS screen or from a successful selection made from the Help screen.

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Screen line 1 includes the cuu, VOLSER, and DASD models for the unit being displayed as well as the current date, time, current screen page number, and last screen page number.

Screen line 2 provides titles for the columns that occupy all the remaining screen lines, except the last line, beginning on screen line 3.

File Name is the full 44-character name of the file occupying this extent. The file name may also be shown right justified indicating the following values:

Value	Indicates…
Free.Space	Available space.
Volume.Table.Of.Contents	Indicates that VTOC occupies this space.
Begin pool poolname	The lower limit for this poolname.
End pool poolname	The upper limit for this poolname.
Low	The starting disk address for this entry.
High	The ending disk address for this entry.
Size	The amount of disk space occupied by this entry.
Seq	The sequence number of this extent.
Created	The Julian date, in the format *yyyyddd*, when this entry was placed in the VTOC.
Expires	The Julian date, in the format *yyyyddd*, when this entry is scheduled to expire. **Note:** If this date is not greater then the corresponding date created, an asterisk (*) is placed between this date and the corresponding date created.

The last screen line shows the action performed by each programmed function key and the total number of available tracks or blocks in the total number of free space extents.

```
BIM-EPIC VTOC Display for 140=DOSRES (9336-10) 1997/345 15:31:52 Page   1 of   1
________ File Name ____________________________      Low    Size Seq Created Expires
VSE.SYSRES.LIBRARY                                     2   59134 000 1996337 1999365
DOS.LABEL.FILE.FF0000017490.AREA1                  59136     320 000 1997255 1999366
VSE.POWER.QUEUE.FILE                               59456     384 000 1997013 1999366
                                 Free.Space       59840     384
Z9999996.VSAMDSPC.TADDB87D.T1DF884A                60224    2880 000 1996337 1999366
Z9999992.VSAMDSPC.TADDB87D.T90FF048                63104   62400 000 1996337 1999366
                     Volume.Table.Of.Contents     125504      64
DOS.PAGING.FILE.FF0000017490                       125568   16896 000 1997273 1999366
Z9999992.VSAMDSPC.TADDB87D.T3C13E4E                142464  155520 000 1996337 1999366
                                 Free.Space       297984   12032
VSE.SYSTEM.HISTORY.FILE                            310016    5056 000 1997345 1999366
DOS.PAGING.FILE.FF0000017490                       315072   16384 002 1997273 1999366
DOS.PAGING.FILE.FF0000017490                       331456  319488 003 1997273 1999366
                                 Free.Space       650944  270578


PF 1=HLP 2=RFSH 3=END 4=FST 5=LST 7=BWD 8=FWD  282994 Free Blocks in   3 Extents
```


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Valid PF keys

The following provides a description of each valid function key:

Function Key	Function	Action
F1/PF1	HELP	Display Help screen
F2/PF2	RFSH	Read all VTOC entries again
F3/PF3	END	Return to CICS
F4/PF4	FST	Go to the first screen
F5/PF5	LST	Go to the last screen
F7/PF7	BWD	Back one screen
F8/PF8	FWD	Forward one screen

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Offload and Onload

Offload System

Description

BIM-EPIC provides offload/onload, backup/restore, offload version consolidation, and offload version copy functions for controlled sequential disk dataset versions. These functions are only available on BIM-EPIC systems supporting both disk and tape management. Control statements identify the datasets processed by the offload, backup, version consolidation, and version copy functions. The control statements are created either manually or by the offload system itself.

The offload/onload function processes only controlled sequential disk dataset versions identified in the BIM-EPIC Catalog. The offload function copies a dataset version to tape and then deletes the disk VTOC entry and changes the catalog entry for the version to show that it is identified as residing on tape. The onload function copies the dataset version residing on tape back to disk and changes the catalog entry for the version to show that it is on disk. Performing an onload of a version already identified as residing on disk will produce the same results as RESTORE and should not be done.

BACKUP and RESTORE functions process controlled sequential disk dataset versions identified in the BIM-EPIC Catalog as well as controlled Start Track 1 sequential disk datasets.

- BACKUP copies a dataset version to tape leaving the disk version in place.
- RESTORE copies a dataset to disk creating a new version for generation files or replacing the current version for work files.

When copying a dataset to disk, the dataset characteristics currently in effect will be recognized. Some changes may occur because of changes in DASD architecture and geometry, for example, CKD to FBA, 3380 to 3390, etc. If specified in the BIM-EPIC pool definition, disk leveling is done when writing multiple datasets as well as multiple extents for a single dataset.

The Offload Version Consolidation function consolidates one or more offload versions into a new version. This function can be useful for offload versions that have most of their datasets in scratch status. For example, an offload dataset may have version 5 consisting of four tapes with 80% of the files on the tape in scratch status and version 7 consisting of three tapes with 70% of the files in scratch status. These two versions

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could be consolidated into a new version of perhaps 1 or 2 tapes, freeing the five remaining tapes for other uses.

The Offload Version Copy function copies an offload version into BIM-EPIC backup format. The Offload Version Copy function will copy an existing backup version or an existing offload version.

Programs

The offload system consists of the following four programs:

- TSIDOFD selects datasets for offload and backup by creating control statements for TSIDOFL.
- TSIDOFL offloads or backs up selected datasets.
- TSIDONL restores offload and backup datasets back to disk or creates a listing of datasets on an offload tape.
- TSIDOFC consolidates offload tapes and copies offload and backup tapes.

High Performance I/O

The BIM-EPIC offload system uses proprietary disk and tape I/O routines that provide extraordinary high performance through the use of physical I/O, maximum block sizes, and a single tape file. The offload system is implemented automatically as soon as BIM-EPIC is activated and is fully compatible with the prior offload system. All JCL, control statements, program names, and procedures remain unchanged. This onload program automatically recognizes and processes offload and backup tapes created under the prior offload system. This process provides complete access to existing offload and backup datasets. Prior offload systems include EPIC 4.14 and earlier.

⚠ **WARNING:**
Whenever an offloaded dataset is read, the tape-resident data is temporarily copied to DSAD and then deleted when the dataset is closed. This means that sufficient disk space must be available to temporarily copy the data to the disk pool specified in the EDD. If an insufficient space condition occurs while creating this temporary disk file, BIM-EPIC allocation configuration options will be used, for example, FRAG and alternate pools.

Note:
The BIM-EPIC Start Track 1 feature is required to automatically access a dataset that has been offloaded. The STRTRK configuration option is set for this feature. When this feature is active, if a program opens a dataset version that has been offloaded to tape, BIM-EPIC will automatically load the version to a Start Track 1 disk area. Then, when the program closes the version, this Start Track 1 disk area will be deleted. This process is sometimes described as staging an offloaded version.

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Selecting Datasets To Be Offloaded (TSIDOFD)

Description

TSIDOFD creates control statements for input to TSIDOFL based on specific selection criteria specified in INCLUDE and OMIT control statements. These control statements determine which datasets will be offloaded or backed up.

Selection Criteria

Disk dataset versions identified in the BMI-EPIC Catalog are selected for offload/backup using the following criteria:

- Pool name
- Volume serial number
- Dataset name
- Dataset names beginning with a specific character string
- Version number
- Versions created since the last time TSIDUTL was executed with the DSPLY NEW function.
- User ID
- System ID
- Access within the last *n* days (SLA)
- No access within the last *n* days (DLA)

Note:
SLA and DLA are mutually exclusive meaning they cannot be used at the same time.

Datasets can be omitted from the inclusion list by:

- Pool name
- Volume serial number
- Dataset name
- Dataset names beginning with a specific character string
- Number
- User ID
- System ID

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Start Track 1 disk datasets are selected for backup using the following criteria:

- Pool name
- Dataset name
- Dataset names beginning with a specific character string

Datasets can be omitted from the inclusion list by:

- Dataset name
- Dataset names beginning with a specific character string

JCL Requirements

The following is an example of the JCL requirements for using TSIDOFD:

```
[// xLBL OUTPUT,'sysin.data.set']
//EXEC TSIDOFD
control statements
/*
```

An internal table is used during the dataset selection process to store each selected dataset version. The capacity of this internal table depends on the amount of excess partition storage available. The capacity, which can be up to but does not include partition GETVIS storage, will never be less than 100 entries. This internal table size is increased by approximately 21 entries for each 1K of excess partition storage available beyond the first 5K. For example, if SIZE=(TSIDOFD,50K) is specified on the EXEC statement, then the internal table capacity will be about 1060 entries. Specifying a SIZE operand value that results in 200K for partition maximizes this internal table. For example, when utilizing a 2048K partition, including GETVIS, a SIZE operand value of 1848K would be appropriate.

If the Dataset Selection report is produced, the actual capacity of the internal table for the current processing is stated on the second report heading line. If TSIDOFD attempts to select more dataset versions than can be held in the internal table, no output will be created. The program will issue an EP618 message and terminate with a return code of 4.

UPSI Values

There are no UPSI values.

Dataset Requirements

The control statements created by TSIDOFD are created on SYSPCH if SYS005 is assigned to SYSPCH. Otherwise, control statements can be written to tape or disk by supplying a TLBL, DLBL, or DD with the DTF name OUTPUT.

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Control Statements

Dataset selection criteria are specified using INCLUDE and OMIT control statements. You can specify multiple parameters on any INCLUDE or OMIT control statement, but parameter expressions cannot be continued. Multiple INCLUDE and OMIT control statements can be submitted reflecting the DSN=, POL=, and VOL= parameters up to the following limits:

- 25 dataset names (DSN=) for INCLUDE processing
- 25 dataset names (DSN=) for OMIT processing
- 50 pool names (POL=) for INCLUDE processing
- 50 pool names (POL=) for OMIT processing
- 50 volume serial numbers (VOL=) for include processing
- 50 volume serial numbers (VOL=) for omit processing

Note:
AND logic always applies when multiple selection criteria are specified, regardless of whether the logic is submitted on a single control statement, multiple control statements, or both.

One set of parentheses must enclose all parameter expressions on a single control statement. Commas or blanks can separate multiple parameter expressions. The parameters ALLVER, VOL, and POL each allow you to specify more than one value. When more than one value is required, the values must be separated by commas within a set of parentheses.

Syntax

The following is an example of the TSIDOFD command syntax.

```
REPORT=YES|NO
CATALOG=YES|NO

INCLUDE   (    )
OMIT   (
   [ DSN='dataset-name' ]
   [ ,VER=n ]
   [ DSN='string.all' ]
   [ ALLVET=n ]
   [ UID=x ]
   [ SID=x ]
   [ POL=poolid,poolid,...]
   [ VOL=volid,volid,...]
)
```

Parameters

The following provides a description of the parameters you can use with the INCLUDE/OMIT control statements:

Parameter	Required With CATALOG=YES?	Required With CATALOG=NO?	Valid	Default
ALLVER	No	Not Allowed	1 to 9999	None

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Parameter	Required With CATALOG=YES?	Required With CATALOG=NO?	Valid	Default
DLA	No	Not Allowed	1 to 365	None
DSN	No	No	1 to 44 characters	None
NEW	No	Not Allowed	None	OFF
POL	No	Yes	1 to 6 characters	None
SID	No	Not Allowed	2 characters	None
SLA	No	Not Allowed	1 to 365	None
UID	No	Not Allowed	2 characters	None
VER	No	Not Allowed	1 to 9999	None
VOL	No	Not Allowed	1 to 6 characters	None

Definitions

The following provides the definitions for the parameters you can use with the INCLUDE/OMIT control statements.

Parameter	Definition
REPORT	Specifies if the Preliminary Dataset Selection report is to be printed. The default is YES. The Preliminary Dataset Selection report shows the size of the internal selection table, in heading 2, the selection criteria used, and the actual dataset versions selected.
CATALOG	Specifies whether selection should be for controlled disk datasets found in the BIM-EPIC Catalog or for controlled Start Track 1 disk datasets. CATALOG=YES, the default, indicates selection should be for controlled disk datasets found in the BIM-EPIC Catalog. CATALOG=NO indicates selection should be for controlled Start Track 1 disk datasets and applies only to the BACKUP function.
INCLUDE	Specifies that the datasets to be included for offload or backup are identified by the subparameters that follow the datasets. You must use at least one INCLUDE statement.
OMIT	Specifies that the datasets to be omitted from offload or backup are identified by the subparameters on the statement. OMIT acts only on dataset versions that have been specified with an INCLUDE statement.

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Parameter	Definition
POL	Selects datasets that are allocated to a specified pool. For INCLUDE, you can specify a maximum of 10 pool IDs. For CATALOG=YES only and if you are using OMIT, you can specify an additional 10 pool IDs to be OMITTED. You can specify multiple pool IDs on a single POL parameter, for example, POL=pool01,pool02,pool03. If CATALOG=YES, the POL parameter is checked against the current pool name in the dataset definition. If the pool name was changed after the dataset version was created, you must use other options to include or omit that dataset version. If CATALOG=NO, the dataset must have been created using the specified pool name and must satisfy all additional criteria: ■ SAM file ■ Prime Data extents ■ Reside completely within the *current* pool limits ■ *NOT* be defined in the BIM-EPIC Catalog In addition, datasets created by PIOCS programs will not be selected unless specifically requested using an INCLUDE statement with a fully qualified DSN parameter. For example, if .ALL. is part of the PIOCS-created DSNs, none of them will be included. This is because PIOCS created datasets do not use logical IOCS and therefore cannot interface with BIM-EPIC.
VOL	Selects datasets from the specified disk volume serial number. For INCLUDE, you can specify up to 10 volume serial numbers. If you are using OMIT, you can specify an additional 10 volume serial numbers on the OMIT. You can specify multiple volume serial numbers on a single VOL parameter, for example, VOL=vol001,vol002,vol003.
DSN	Selects a single dataset name or a set of datasets beginning with the same character string. The value specified must be enclosed in apostrophes (‘). To indicate a group of datasets, specify .ALL at the end of the dataset name.

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Parameter	Definition
VER	Selects a version number for a particular dataset. VER can be supplied only if the DSN parameter is also supplied. If the DSN parameter is omitted, all versions of the dataset are selected. **Note:** Subparameters can be specified only once for INCLUDE and once for OMIT.
ALLVER	Selects datasets by version number. ALLVER affects all selected datasets; VER affects only a specific dataset. You can specify up to five versions with a single ALLVER parameter, for example, ALLVER=*n,n,n,n,n.*
SID	Selects datasets with the specified system ID.
UID	Selects datasets with the specified user ID.
DLA	Selects datasets which have not been accessed for the specified number of days. DLA is valid only for INCLUDE.
SLA	Selects datasets which have been accessed within the specified number of days. SLA is valid only for INCLUDE.
NEW	Selects datasets which have been created since the last time TSIDUTL was executed with DSPLY NEW. NEW is valid only for INCLUDE.

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Offloading and Backing Up Datasets (TSIDOFL)

Description

TSIDOFL offloads or backs up selected datasets according to the settings on the UPSI statement and the contents of control statements.

Control statements specify which datasets and versions are to be processed and are supplied as SYSIPT data. These control statements can be generated by TSIDOFD or specified manually. Unless UPSI x1 is present, TSIDOFL sorts the control statement information into descending version within dataset name before beginning writing the specified data to tape.

The offload tape is always associated with a cataloged dataset. You can use the default offload dataset, OFFLOAD.DATA.SET, or you can create your own dataset. If you create your own dataset, you must catalog the dataset and supply a TLBL or DD statement using the DTF name OUTPUT.

A tape version containing offloaded disk versions is not eligible for scratch until all the offloaded disk versions either expire or are loaded back to disk. In addition, any additional retention criteria attributed to the tape version must be satisfied.

JCL Requirements

The following are JCL requirements necessary when the control statements are supplied as SYSIPT data:

```
[// TLBL OUTPUT,'offload.dataset.name']
// UPSI xx
// EXEC TSIDOFL
control statements
/*
```

The following are JCL requirements necessary when the control statements are supplied from a tape or disk dataset using GDI for SYSIPT:

```
[// TLBL OUTPUT,'offload.dataset.name']
// UPSI xx
* //IJSYSIN DD DSN=sysin.dataset,DISP=(OLD,DELETE,KEEP)
// EXEC TSIDOFL
/*
```

The following are JCL requirements necessary when the control statements are supplied from a tape or disk dataset using a standard VSE assignment for SYSIPT:

```
{// TLBL OUTPUT,'offload.dataset.name'}
// DLBL IJSYSIN,'sysin.dataset'
// EXTENT SYSIPT
ASSGN SYSIPT,DISK,VOL=volser,SHR
// UPSI xx
// EXEC TSIDOFL
/*
CLOSE SYSIPT,SYSRDR
```


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```
{// TLBL OUTPUT,'offload.dataset.name'}
// TLBL IJSYSIN,'sysin.dataset'
// EXEC TSIDASS
OPEN IJSYSIN,SYS020,INPUT
/*
// ASSGN SYSIPT,SYS020
// UPSI xx
// EXEC TSIDOFL
/*
// RESET SYSIPT
```

UPSI Values

The following UPSI values can be used when offloading and backing up datasets.

Position	Setting	Function
0	0	Specifies OFFLOAD function
	1	Specifies BACKUP function. **Note:** If control statements for Start Track 1 datasets are submitted, UPSI 1 is automatically forced since OFFLOAD cannot be done for Start Track 1 datasets.
1	1	Specifies the control statements are not sorted and datasets are offloaded in the order in which the control statements were submitted.
2	1	Specifies that the DSN selection will be by generation number rather than by version number. Do not use if TSIDOFD created the control statements.

WARNING:
If UPSI x1 is used with a TSIFOFL execution where the TSIDOFL control statements were NOT created by the TSIDOFD program, it becomes the your responsibility to verify that, when multiple versions of a dataset are restored using TSIDONL, the oldest version is restored first, the second oldest version is restored second, and so on.

Dataset Requirements

OUTPUT specifies a tape dataset that will be the offload/backup tape.

Note:
This dataset name must be cataloged. If a label is not supplied for the OUTPUT dataset, TSIDOFL catalogs the dataset using the dataset name OFFLOAD.DATA.SET.

IJSYSIN specifies that the input control statements reside on a TSIDOFD-created tape or disk dataset instead of on SYSIPT. You can use either standard VSE assignments or GDI.

PARM Values

PARM='DLAUPD=NO' can be specified on the EXEC Job Control statement. This prevents the offload/backup job name and current date

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from being stored as the last accessed job and date for each version read by TSIDOFL. If you specify PARM='DLAUPD=YES' or do not specify the PARM operand, the offload/backup job name and current date will be stored as the last accessed job and date for each version read by TSIDOFL.

Control Statements

Use control statements to indicate which datasets to offload or backup. You can use TSIDOFD to generate these control statements. Control statements for disk dataset versions identified in the BIM-EPIC Catalog and control statements for Start Track 1 datasets *cannot* be combined in the same execution of TSIDOFL.

If UPSI xx1 is used, TSIDOFD must not be used to generate the control statements.

Syntax

The syntax for a sequential disk version is:

```
'dataset-name',version-number
'dataset-name',generation-number
```

The syntax for a Start Track 1 disk dataset is:

```
'dataset-name',POL=poolnm
```

Parameters

The following provides a description of the parameters you can use with a sequential disk version.

Parameter	Required?	Valid	Default
dataset-name	Yes	1 to 44 characters	None
version number	No	1 to 9999/1-65534	None
generation number	No	1 to 9999/1-65534	None
poolnm	Yes	6 characters	None

Definitions

The following provides the definitions for the parameters you can use with a sequential disk version.

Parameter	Definition
dataset-name	Specifies the name of the dataset to offload or backup.
version	Specifies the version to offload or backup.
generation	Specifies the generation number to offload or backup. UPSI xx1 must be set and TSIDOFD must not create the input control statements.

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Parameter	Definition
version/ generation number	Positional and only one number can be specified. If UPSI xx1 is not set, EPIC regards the number as a version number. If UPSI xx1 is set, EPIC regards the number as a generation-number. They are only valid for datasets defined in the catalog.
poolnm	Specifies the name of the pool where the dataset resides. It is only valid for Start Track 1 datasets.

Restart Information

TSIDOFL copies each dataset that is to be backed up or offloaded to the output tape. In addition, OFFLOAD deletes the VTOC entry for a dataset version as soon as the data has been transferred to the output tape. If for any reason a backup or offload job that involves more than one dataset terminates abnormally and, as a result, must be restarted, a special restart procedure is required. This special restart procedure is discussed in the next section.

Restarting Backups

Backups must be restarted from the beginning because TSIDOFL sorts the control statements internally. To restart a backup:

Step	Action
1	Scratch the incomplete backup dataset version.
2	Restart the TSIDOFL backup step.

Restarting Offloads

The same dataset cannot be offloaded twice. Therefore, TSIDOFL automatically restarts with the next dataset to be offloaded. The datasets already offloaded are in the incomplete offload dataset version. To restart an offload:

Step	Action
1	Do not scratch the incomplete offload dataset version.
2	Restart the job at the TSIDOFL step. Use the same input control statements and disregard any error messages for missing datasets. These datasets were offloaded by the incomplete run and have been deleted from the VTOC.
3	Keep the TSIDOFL offload report and tapes from both the incomplete and restarted runs.
4	If the offloaded datasets are subsequently onloaded, run TSIDONL with the offload dataset versions from both the incomplete and restarted runs.

Examples

The following job offloads datasets based on control statements supplied using the IJSYSIN input dataset SYSIN.DATASET. This tape or disk dataset is deleted when the dataset is closed. Because no TLBL or DD for OUTPUT was supplied, all datasets will be offload to a tape as version 1

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of output dataset name OFFLOAD.DATA.SET. If the dataset name does not exist, BIM-EPIC will create it as part of the OFFLOAD processing.

```
// JOB OFFLOAD
* //IJSYSIN DD DSN=SYSIN.DATASET,DISP=(OLD,DELETE)
// UPSI 0
// EXEC TSIDOFL
/*
/&
```

The following example backs up datasets based on the control statements supplied using the IJSYSIN input dataset SYSIN.DATASET. This input dataset is deleted when the dataset is closed. Because a TLBL for OUTPUT was supplied, all datasets will be backed up to a tape as version 1 of the output dataset name BACKUP.DATASET. This dataset must have been defined to the BIM-EPIC catalog before the backup step is executed.

```
// JOB BACKUP
* //IJSYSIN DD DSN=SYSIN.DATASET,DISP=(OLD,DELETE)
// TLBL OUTPUT,'BACKUP.DATASET'
// UPSI 1
// EXEC TSIDOFL
/*
/&
```

The following example offloads versions of four datasets named on the control statements supplied as SYSIPT data. All datasets are offloaded to a tape as version 1 of the output dataset name USER.OFFLOAD.DATA. This dataset must have been defined to the BIM-EPIC catalog before the backup step is executed.

All versions of TECON.TRANS will be offloaded. Only the specified version of the other datasets will be offloaded.

```
// JOB OFFLOAD
// TLBL OUTPUT,'USER.OFFLOAD.DATA'
// UPSI 0
// EXEC TSIDOFL
'PAYROLL.CHECKS',2
'BILLING.MASTER',9
'BILLING.MASTER',10
'RECON.TRANS'
/*
/&
```

The following example backs up five Start Track 1 datasets named on the control statements supplied as SYSIPT data. All datasets are offloaded to a tape as version 1 of the output dataset name START.TRACK1.DATA. This dataset must have been defined to the BIM-EPIC catalog before the backup step is executed.

```
// JOB BACKUP
// TLBL OUTPUT,'START.TRACK1.DATA'
// UPSI 1
// EXEC TSIDOFL
'SNOOPY.DOG',POL=WDPOOL
'MICKEY.MOUSE',POL=WDPOOL
'TAZ.DEVIL',POL=WBPOOL
'WILEY.COYOTEIUS.MAXIMUMUS.HURTUM',POL=WBPOOL
```


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```
'CRAYZY.RABBUTTE',POL=WBPOOL
/*
/&
```


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Onloading and Restoring Datasets (TSIDONL)

Description

TSIDONL onloads or restores datasets back to disk. TSIDONL can also produce a report listing the datasets contained on an offload tape. Use UPSI settings to specify TSIDONL functions.

You can onload a dataset only from an offload tape. TSIDONL assigns the newly created disk version a version number based on the absolute generation number the version had when it was offloaded.

You can restore a dataset from either an offload or a backup tape. For sequential disk versions identified in the BIM-EPIC Catalog, RESTORE assigns the dataset version number 1.

WARNING:
Careful thought should be given before doing RESTORE functions. A detailed description of the Restore action is provided later in this chapter.

JCL Requirements

The following is an example of the JCL requirements for using TSIDONL.

```
// UPSI XXXX
[// TLBL INPUT,'user-dataset-name']
// EXEC TSIDONL
[control statements]
/*
```

UPSI Settings

The following UPSI settings are used with TSIDONL.

Setting	Function
000	Onloads all datasets from the offload tape. No control statements are read.
010	Onloads only datasets selected by control statements.
100	Restores all datasets from the offload or backup tape. No control statements are read.
110	Restores datasets selected by control statements only.
xx1	Creates a report of datasets on the offload or backup tape. No datasets are onloaded or restored. No control statements are read.
xxx1	Assumes uncataloged input tapes are in the new offload format. See the note below or additional information.
0x0x1	Prevents onloading of a dataset version that has been scratched from the BIM-EPIC Catalog. See the note below for additional information.

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Setting	Function
0xx0x1	Use the original generation number from the offloaded file(s) and change the creation date in the VTOC entry to the original creation date of the offloaded file(s). The version will not be onloaded if it is in SCRATCH status in the BIM-EPIC Catalog.

Note:
`UPSI xxx1` applies to tapes containing offload or backup data for sequential disk versions identified in the BIM-EPIC Catalog. UPSI xxx1, should be used *only* when the accessed tape volume(s) are not cataloged *and* if they were created using the new proprietary high performance offload system EPIC 4.15/BIM-EPIC 5.1 or later. The following events could cause this situation to occur:

- The tape volume was purged from the catalog.
- The tape volume was created at a different site and is not known to the catalog at the site where it is being restored.

In all cases, the disk dataset that is the target of the restore must be defined in the BIM-EPIC Catalog. Instead of using UPSI xxx1 for an uncataloged tape, you can use the Online Manager or TSIDMNT ADD function to add the tape volume to the BIM-EPIC Catalog. When the tape volume has been added to the BIM-EPIC Catalog, use the Online Manager or TSIDMNT RETAIN function with the OF2 parameter. See the *BIM-EPIC Installation and System Guide* for information describing the OF2 parameter.

When onloading a version that has been scratched from the BIM-EPIC Catalog, BIM-EPIC sets the onloaded version to 1. The user may not want this to happen since the data is probably older than the current version 1. If UPSI bit 4 is ON, BIM-EPIC will not onload any dataset version found on the input tape that has been scratched from the BIM-EPIC Catalog.

UPSI bit 4 is effective only when doing an onload function and *not* report-only processing. To perform an onload function, set UPSI bit 0 to OFF. To set UPSI to a report-only processing format, set UPSI bit 2 to ON. If UPSI bit 4 is OFF and a dataset is restored as version 1 because it has been scratched from the BIM-EPIC Catalog, SCR'D will display on the TSIDONL report entry for that dataset version as a "warning flag."

Dataset Requirements

INPUT specifies the offload dataset name used when TSIDOFL was executed. If no TLBL or DD statement is supplied, TSIDONL uses version 1 of the dataset OFFLOAD.DATASET. No statements are required for the output datasets.

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Onload versus Restore

The following scenario describes the differences between TSIDONL Onload and TSIDONL Restore.

Suppose you have a dataset named DATASET.A with the following information in the BIM-EPIC Catalog.

Version Number	Absolute Generation Number (AGN)	Location
1	46	Disk
2	45	Disk
3	44	Disk
4	43	Disk
5	42	Disk
6	41	Disk

An Absolute Generation Number (AGN) is a one-up number assigned to a disk-resident version by BIM-EPIC at the time the version is created. Version numbers change as a version becomes older or if a newer version is scratched. However, an AGN does not change as long as the version remains on disk. For example, if version 4 were scratched, version 5 would become version 4 and version 6 would become version 5 but their AGNs would not change.

In the above table, when version 2 was first created as version 1, BIM-EPIC assigned AGN 45. The 45 means that this was the 45th time a version of this dataset was created to the BIM-EPIC catalog. The next time a version 1 for this dataset is created, the version will be assigned an AGN of 46, the next AGN will be 47, and so on.

Suppose version 3 through version 6 were offloaded to tape by TSIDOFL. Now DATASET.A contains the following:

Version	Absolute Generation Number (AGN)	Location
1	46	Disk
2	45	Disk
3	44	Tape
4	43	Tape
5	42	Tape
6	41	Tape

Version information still exists in DATASET.A for version 3 through version 6. However, now those versions display as tape datasets instead of disk. Version 3 through version 6 are still available for scratching, assuming all retention criteria have been met, even though the versions have been offloaded.

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If versions 3 through version 6 are not scratched and two new versions are created, DATASET.A contains the following:

Version	Absolute Generation Number (AGN)	Location
1	48	Disk
2	47	Disk
3	46	Disk
4	45	Disk
5	44	Tape
6	43	Tape
7	42	Tape
8	41	Tape

Onload Results

If the previously offloaded versions (version 3 through version 6) are onloaded, DATASET.A contains the following:

Version	Absolute Generation Number (AGN)	Location
1	48	Disk
2	47	Disk
3	46	Disk
4	45	Disk
5 (old ver. 3)	52 (old AGN=44)	Disk
6 (old ver. 4)	51 (old AGN=43)	Disk
7 (old ver. 5)	50 (old AGN=42)	Disk
8 (old ver. 6)	49 (old AGN=41)	Disk

After the versions have been onloaded, BIM-EPIC will change the catalog entires for the versions to show that they now resided on disk instead of tape. Since the most recent onloaded versions are once again on disk, they are assigned new AGNs.

Restore Results

Instead of doing an onload, you restore the previously offloaded datasets. DATASET.A now contains the following:

Version	Absolute generation number (AGN)	Location
1 (old ver. 3)	52 (old AGN=44)	Disk
2 (old ver. 4)	51 (old AGN=43)	Disk
3 (old ver. 5)	50 (old AGN=42)	Disk
4 (old ver. 6)	49 (old AGN=41)	Disk
5	48	Disk

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6	47	Disk
7	46	Disk
8	45	Disk

BIM-EPIC restores each version as version 1 in descending sequence based on the original version order. Since the most recent onloaded versions are once again on disk, they are assigned new AGNs.

These TSIDONL Onload and TSIDONL Restore examples show why using onload instead of restore is the most used method for returning offloaded data to disk. The Onload function keeps the original version sequence in the catalog, while the Restore function sets the version to version 1 in the catalog.

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TSIDONL Control Statements

Description

TSIDONL control statements are read if UPSI 010 or UPSI 110 is specified. There are two types of TSIDONL control statements:

- *dataset-name* specifies a dataset version to be onloaded or restored.
- START begins an onload or restore at a particular dataset and version on the tape.

You can continue the control statement by placing a comma after the last parameter and then beginning the next parameter with the next control statement.

If no control statements are supplied when UPSI x10 is specified, all datasets and versions on the tape are written to disk.

Syntax

The syntax for *dataset-name* version in the BIM-EPIC Catalog is:

'*dataset-name*',*generation-number*

The syntax for a *dataset-name* Start Track 1 dataset is:

'*dataset-name*'[,*POL=poolnm*][,*'alt-dataset-name'*]

Parameters

The following describes the parameters you can use for a Start Track 1 dataset.

Parameters	Required?	Valid	Default
dataset-name	Yes	1 to 44 characters	None
generation-number	see below	1 to 999999	None
poolnm	No	6 characters	see below
alt-dataset-name	No	1-44 characters	None

Definitions

The following provides the definitions for the parameters you can use for a Start Track 1 dataset.

Parameter	Definition
dataset-name	Specifies the name of the dataset to be onloaded or restored.

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Parameter	Definition
generation-number	Specifies the absolute generation number (AGN) of the tape dataset to be onloaded or restored. To specify all generations of a dataset, use an asterisk (*). The generation number can be omitted for a work dataset. The AGN can be obtained from an Online Manager or TSIDMNT display of the dataset, or from the listing produced by TSIDOFL when the offload or backup was done.
poolnm	Specifies the name of the pool where the dataset is to be restored. If *poolnm* is not specified, the dataset will be restored to the same pool where the dataset was originally located.
alt-dataset-name	Specifies the dataset name to use for the restored dataset. If an alt-dataset name is not specified, the dataset name will be used. This parameter can be used only when restoring Start Track names. It cannot be used for BIM-EPIC Catalog controlled dataset names.

Restart Information

Each version of a dataset that is backed up or offloaded is processed as a separate entity. Therefore, if a multi-version/dataset onload or restore job terminates abnormally before all of the onload/restore actions have completed, the job must be restarted. In order to avoid dataset duplication and maintain version order integrity, the job must be restarted on the version being processed at the time the abend occurred. Use the following procedure to restart the job.

Step	Action
1	Refer to the restore/onload report and obtain the last dataset name and generation listed.
2	Compare this to the backup/offload report and obtain the next version and generation number that would have been onloaded/restored.
3	Restart TSIDONL using a START control statement specifying the dataset name and generation number identified in step 2 of this procedure.

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Syntax

The following is an example of a START control statement syntax.

START='*dataset-name*',*generation-number*

Definitions

The following provides the definitions for the parameters you can use for a Start Track 1 dataset.

Parameter	Definition
dataset-name	Specifies the name of the dataset to use to begin onload or restore processing.
generation-number	Specifies the absolute generation number of the disk dataset. The generation number can be omitted for a work dataset identified in the BIM-EPIC Catalog and *must* be omitted for a Start Track 1 dataset.

Examples

The following onload example onloads all versions on a tape using version 1 of the default offload dataset (OFFLOAD.DATA.SET). Existing versions will be written in the correct version sequence unless a particular version has been scratched since it was offloaded. If a version has been scratched, it will written as version 1 of the dataset.

```
// JOB ONLOAD
// EXEC TSIDONL
/*
/&
```

The following restore example restores all generations of the ACCOUNTS.PAY dataset. Each generation is assigned version number 1 as it is restored. The last version restored is version number 1. Because versions are copied in reverse version order, the last version restored is the newest version on the tape.

```
// JOB RESTORE
// UPSI 110
// EXEC TSIDONL
'ACCOUNTS.PAY',*
/*
/&
```

The following onload restart example onloads all datasets starting with and written after generation 112 of the ACCOUNTS.PAY dataset. The versions remain assigned to their current relative version number unless that version has been scratched. If the version has been scratched, the version will be version 1.

```
// JOB ONLOAD
// TLBL INPUT,'USER.DATA.SET'
// UPSI 010
// EXEC TSIDONL
START='ACCOUNTS.PAY',112
/*
/&
```


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The following example restores all datasets found on version 1 of the OFFLOAD.DATA.SET tape.

```
// JOB RESTORE
// UPSI 100
// EXEC TSIDONL
/*
/&
```

The following restore example restores three Start Track 1 datasets named on the control statements. The second control statement contains the POL= parameter which causes that Start Track 1 dataset to be restored to the specified pool, WDPOOL, rather than the pool where the dataset was originally located. The fourth control statement contains both the POL= parameter and an alternate dataset name that causes that Start Track 1 dataset to be restored to the specified pool, DPOUND, using the alternate dataset name, WOODSTOCK, rather than the pool and dataset name of the original file. The last control statement, which continues across two records, contains an alternate dataset name that causes only that Start Track 1 dataset to be restored using the alternate dataset name, SYLVESTER, rather than the dataset name of the original file.

```
// JOB RESTORE
// UPSI 110
// EXEC TSIDONL
‘WILEY.COYOTEIUS.MAXIMUMUS.HURTUM.IV.CERTUM’
‘CRAYZY.WABBUTTE’,POL=WDPOOL
‘TAZ.DEVIL’
‘SNOOPY’,POL=DPOUND,’WOODSTOCK’
‘TWEETY’,
’SYLVESTER’
/*
/&
```


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Consolidating Offload Versions (TSIDOFC)

Description

TSIDOFC consolidates one or more offload versions into a single version. Control cards are used to report on consolidation candidates and to specify the versions to be consolidated.

TSIDOFC can also copy an OFL-created offload or backup tape volume to another tape volume.

JCL Requirements

Control statements are supplied as SYSIPT data. The following is an example of the JCL requirements:

```
// TLBL OFCINP,'inputdatasetname'
// TLBL OFCOUT,'outputdatasetname'
// DLBL SORTWK1,'datasetname'
// EXEC TSIDOFC
control statements
/*
```

The REPT function does not require TLBLs.

DLBL for SORTWK1 is required for the REPT function only and can be omitted if it is in standard labels.

UPSI Values

There are no UPSI values.

Dataset Requirements

The dataset names used in OFCINP and OFCOUT must be the same if version consolidation, CONI, is being performed. The dataset names must be different if COPY is being performed.

Offload and backup data must have been created in EPIC 4.2 or higher.

Control Statements

TSIDOFC uses the following control statements:

- REPT produces the Offload Consolidation Candidate report. The report provides a list of all offload datasets in the BIM-EPIC Catalog and their environmental detail, for example, media type, expire date, volume serial number, etc. If requested, appropriate datasets will be flagged as consolidation candidates.
- CONI specifies the offloaded versions that are to be consolidated into a new version.
- CONO specifies the version number of the consolidated output. If CONO is not present, the new version will be version 1.
- COPY specifies the offload or backup version that will be copied to a new version.

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Syntax

Control statements can begin in any column. Continuations cannot be used.

```
REPT  [PCT=n]
CONI  n n [n]...[n]
CONO  NV=n
COPY  n
```

Definitions

If used, REPT must be the only control statement submitted. The following provides the definition for the parameter you can use with the REPT control statement.

Parameter	Definition

PCT=*n*	Optional and is most accurate for offload datasets that reside on cartridge media. If PCT=*n* is present, the Offload Consolidation report will print the phrase *Consolidation Candidate* next to each dataset version with a number of blocks in non-scratch status percentage equal to or less than *n*. For example, if PCT=30 is specified and version 7 of an offload dataset has 25% of its available blocks in use, the dataset will have *Consolidation Candidate* listed next to its report line. The value for blocks available is based on an estimate of the number of 64K blocks that will fit on the various cartridge media. The value for the number of available blocks in non-scratch status is taken from data in the BIM-EPIC Catalog. For example:
	`REPT`
	`REPT  PCT=40`

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The following provides the definition for the parameter you can use with the CONI control statement.

Parameter	Definition

`n n [n]...[n]`	Specifies a version numbers that are input to the consolidation process. There must be at least two values present with each value separated by a space. There can be as many versions specified as will fit on columns 1 through 72 of the control statement. Only one CONI statement can be present.
	
	Unless the CONO statement is used, the version number of the consolidated output will be version 1.
	
	Upon completion of the consolidation, the input versions are set to scratch status in the BIM-EPIC Catalog. For example:
	
	`CONI 5 12`
	`CONI 6 14 23 30`

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The following provides the definition for the parameter you can use with the CONO control statement.

Parameter	Definition

NV=*n*	Specifies the version number assigned to the consolidated output version if you want a version other than 1. The default value is 1. The version number is not assigned until the consolidation process has completed and the input versions have been scratched. At that time, if the NV number would cause a gap in the numbering sequence, the version will remain at 1. For example, if at the beginning, versions 1, 2, 3, 4, 5, and 6 exist, the control statements are:
	`CONI 1 2 3 4`
	`CONO NV=4`
	At completion of consolidation and prior to CONO processing, the versions are:
	1 – result of the consolidation
	2 – previously version 4
	The original versions 1, 2, 3 and 4 are scratched.
	The CONO value NV=5 would cause a sequence numbering gap since version 3 does not exist. NV=3 or NV=2 would be acceptable since no sequence numbering gap would occur. CONO must come after CONI. For example:
	`CONI 5 12`
	`CONO NV=5`

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The following provides the definition for the parameter you can use with the COPY control statement.

Parameter	Definition
n	Specifies the version number of the dataset that is input to the copy process. The version number of the output dataset will be version 1. Only one version can be copied at a time. The input dataset name and output dataset names must be different. The output will be in TSIDOFL BACKUP format and NOT in OFFLOAD format, even if the input is in OFFLOAD format, so the version in the COPY cannot be onloaded. Only one COPY statement can be present. For example: `COPY 4`

Examples

The following example produces an Offload Consolidation Candidate report.

```
// JOB OFCREP
// DLBL SORTWK1,'SORT.WK1'
// EXEC TSIDOFC
REPT
/*
/&
```

The following example produces an Offload Consolidation Candidate report and identifies the versions that are candidates for consolidation.

```
// JOB OFCREP
// DLBL SORTWK1,'SORT.WK1'
// EXEC TSIDOFC
REPT PCT=35
/*
/&
```

The following example consolidates version 4, version 8, and version 11 into a new version 1.

```
// JOB OFCCONS
// TLBL OFCINP,'PAYR.MONTHLY.OFLD'
// TLBL OFCOUT,'PAYR.MONTHLY.OFLD'
// EXEC TSIDOFC
CONI  4 8 11
/*
/&
```

The following example consolidates version 4, version 8, and version 11 into a new version 6.

```
// JOB OFCCONS
```


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```
// TLBL OFCINP,'PAYR.MONTHLY.OFLD'
// TLBL OFCOUT,'PAYR.MONTHLY.OFLD'
// EXEC TSIDOFC
CONI  4 8 11
CONO NV=6
/*
/&
```

The following example copies offload version 7 and creates version 1 in PAYR.MON.COPY. The new version 1 will be in BACKUP format. Version 7 may be in OFFLOAD or BACKUP format.

```
// JOB OFCCONS
// TLBL OFCINP,'PAYR.MONTHLY.OFLD'
// TLBL OFCOUT,'PAYR.MON.COPY'
// EXEC TSIDOFC
COPY 7
/*
/&
```


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A

BIM-EPIC Report Fields and Examples

BIM-EPIC produces several standard reports. This appendix lists the standard reports by report name, report examples, and general reports.

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DSPLY SCRATCH Report
PSCRATCH Report (Projected Scratch)
TSIDVLT Report

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Customized Reports

Description

In addition to the standard reports, you can use your own report writers to produce customized reports using BIM-EPIC data.

The DSN Catalog contains all tape and dataset information, including BIM-EPIC dataset definitions (EDDs) and version data. BIM-EPIC provides the TSIDAC2 subroutine for access to the DSN Catalog and the TSIDAC2.C or TSIDAC2.A copy books to map the catalog records.

The Recorder File contains all DSN Catalog changes, job accounting information, and user comments. You can use the Recorder File to report data such as catalog use and machine use. Use the Recorder Copybook, TSIDREC.C, to map Recorder File records.

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TOJA Report Examples

Description

TOJA displays job accounting information online. See Chapter 11, “CICS Access to Job Accounting Database,” for information on the TOJA report.

The TOJA report has three displays:

- Job Overview
- Program Overview
- Program Audit

Job Overview Display

The Job Overview display presents an overview of job activity based on a job name. For each job, there is one entry for each program executed in that job.

```
                BIM-EPIC/VSE ONLINE JOB ACCOUNTING FACILITY
.ALL                                                                    PAGE 02
JOB NAME   PHASE NAME  START DATE  START TIME   DURATION  CC  PT  AR  CPU ID
CATOJA      LNKEDT     11/17/1997   08:50:19    00:00:11  10  F4 002  444444
CATPRV      LNKEDT     11/18/1997   10:19:24    00:00:21  10  F7 002  333333
CATSDS      LNKEDT     11/18/1997   10:19:28    00:00:22  10  F8 002  333333
CICSEPIC    DTSANALS   11/18/1997   06:17:02    00:00:08  10  F2 002  222222
            IESWAITT   11/18/1997   06:17:10    00:00:14  10     000
            DFHSIP     11/18/1997   06:17:25    02:30:32  17     000
CICSEPIC    DTSANALS   11/18/1997   09:04:49    00:00:10  10  F2 000  222222
            IESWAITT   11/18/1997   09:05:00    00:00:04  10     000
            DFHSIP     11/18/1997   09:05:04    00:06:37  17     000
CICSEPIC    DTSANALS   11/18/1997   09:12:29    00:00:03  10  F2 000  222222
            IESWAITT   11/18/1997   09:12:33    00:00:01  10     000
            DFHSIP     11/18/1997   09:12:34    00:10:39  17     000
CICSEPIC    DTSANALS   11/18/1997   09:24:19    00:00:06  10  F2 000  222222
            IESWAITT   11/18/1997   09:24:26    00:00:02  10     000
CICSEPI3    DTSANALS   11/17/1997   08:19:40    00:00:52  10  F2 000  444444
            IESWAITT   11/17/1997   08:20:33    00:00:53  10     000
CICSICCF    DTSANALS   11/18/1997   06:07:49    00:00:03  10  F2 000  222222
            IESWAITT   11/18/1997   06:07:53    00:00:23  10     000
            DFHSIP     11/18/1997   06:08:16    00:03:37  18     000
CLEARRF     TSIDRFS    11/14/1997   10:47:16    00:00:01  10  F4 000  444444
               PF3=END  PF5=DETAIL  PF7=BACKWARD  PF8=FORWARD
```

Definitions

The following describes the fields located in the Job Overview display.

Field	Definition
JOB NAME	Specifies the name of the job that initiated the open and close activity. Different jobs are separated from each other by a dotted line.
PHASE NAME	Specifies the name of the executed phase.
START DATE	Specifies the date the program started.
START TIME	Specifies the time the program started.
DURATION	Specifies the length of time the program ran.
CC	Specifies the VSE cancel code, if the program.
PT	Specifies the partition where the job ran.

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Field	Definition
AR	Specifies the number of audit records for the phase. There is one audit record for each open and one audit record for each close processed.
CPU ID	Specifies the CPU where the job ran.

Program Overview Display

The Program Overview panel displays statistics at the program level.

```
BIM-EPIC/VSE ONLINE JOB ACCOUNTING FACILITY
 .ALL                                                              PAGE 02

  JOB NAME --------- CATSDS          PHASE NAME ---------- LNKEDT
  CPUID  ----------- 333333          PARTITION ----------- F8
  START DATE ------- 11/18/1997      END DATE ------------ 11/18/1997
  START TIME ------- 10:19:28        CPU TIME ------------ 00:00:01:5
  STOP TIME -------- 10:19:50        OVERHEAD ------------ 00:00:00:8
  DURATION  -------- 00:00:22        ALLBOUND ------------ 00:00:00
  CANCEL CODE (HEX) ------ 10        PHASE CODE -- L (S=STEP L=LAST)
                                     PHASE SEQ --- 0001
            ********** INPUT OUTPUT TABLES **********
    400      FEC      01F      140      141      142      160
  00000155 00000012 00000007 00000073 00000183 00000378 00000100
    173      FEE
  00000132 00000228


            ****************************************
   USER INFORMATION --------
   NUMBER OF AUDIT RECORDS FOR THIS PHASE -- 002
      USE PF5 TO VIEW AUDIT RECORDS

                PF3=END  PF5=DETAIL  PF7=BACKWARD  PF8=FORWARD
```

Definitions

The following describes the fields located on the Program Overview display.

Field	Definition
JOB NAME	Specifies the name of the job.
CPUID	Specifies the CPU where the program ran.
START DATE	Specifies the date the program was started.
START TIME	Specifies the time the program was started.
STOP TIME	Specifies the time the program finished.
DURATION	Specifies the amount of time the program ran.
CANCEL CODE (HEX)	Specifies the VSE cancel code, if the program canceled.
PHASE NAME	Specifies the name of the program (EOJ reported as a phase).
PARTITION	Specifies the partition where the program ran.
END DATE	Specifies the date the program finished.
CPU TIME	Specifies the amount of CPU time the program used.
OVERHEAD	Specifies the program's overhead, as defined by IBM.

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Field	Definition
ALLBOUND	Specifies the allbound times for the program as defined by IBM.
PHASE CODE	Specifies STEP for a phase record; LAST for an EOJ record.
PHASE SEQ	Specifies the step number of the phase.
INPUT OUTPUT TABLES	Specifies the I/O counts for each device.
USER INFORMATION	Specifies user information from the JOB statement.
NUMBER OF AUDIT RECORDS FOR THIS PHASE	Specifies one audit record for each open and one for each close processed by the phase.

Program Audit Display

The Program Audit panel displays information about datasets processed by the program.

```
      BIM-EPIC/VSE ONLINE JOB ACCOUNTING FACILITY
FILEID           REC CREATION OPEN      EXPIRY    SERIAL  REEL    END   DTF
PROCESSED       TYPE   TIME  CLOSE CUU   DATE    ACCEPTED TRACK  TRACK  TYPE
********************************************************************************
3F8.IJSYSLN       DO 10:19:29  C   400 11/18/1997 EPV400  030474 010000  32
3F8.IJSYSLN       DI 10:19:47  C   400 11/18/1997 EPV400  030474 010000  32
                 PF2=BACKWARD             PF4=END
```

Definitions

The following describes the fields located on the Program Audit display.

Field	Definition
FILEID PROCESSED	Specifies the name of the file processed. MT indicates that the phase was TSIDMNT and these records are DSN Catalog transactions.
REC TYPE	Specifies the record type of the file. Valid types are DO=disk output, DI=disk input, TO=tape output, TI=tape input, and MT=manual catalog maintenance transaction.
CREATION TIME	Specifies the time the dataset was created.
OPEN CLOSE	Indicates whether the file was opened or closed.
CUU	Specifies the device address accessed.
EXPIRY DATE	Specifies the projected expiration date of the dataset.

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Field	Definition
SERIAL ACCEPTED	Specifies the volume serial number if the ACCEPT command was issued.
REEL TRACK	Specifies the starting address of a disk dataset or the reel sequence number of a tape dataset.
END TRACK	Specifies the ending address of a disk dataset.
DTF TYPE	Specifies the DTF type of the dataset.

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TSIDARP Report

Description

TSIDARP produces the Activity Log report listing open and close activity by job name. Job data is listed in sections with information about the job and program information listed in the first line of the section. Dataset activity for that job is listed under the job name.

Definitions

The following describes the fields located on the Activity Log.

Field	Definition
JOB NAME	Specifies the name of the job which initiated the open and close activity. Different jobs are separated from each other by a dotted line.
PHASE NAME	Specifies the name of the program being reported. **Note:** Under each job and phase name, the Activity Log report lists the datasets processed by each phase. The Activity Log report indicates what kind of dataset was processed and whether the dataset was opened or closed.
PART	Specifies the partition the job ran in.
CPU TIME	Specifies the amount of CPU time the program used.
OVERHEAD	Specifies the program overhead, as defined by IBM.
GEN/REEL	Specifies the generation number of a disk version or the reel sequence of a tape version.
SERIAL NO	Specifies the serial number of the tape or disk pack accessed.
DTF TYPE	Specifies the DTF type of the dataset processed.
UNIT	Specifies the address of the drive used.
TOTAL I/O	Specifies the amount of I/O issued by the program to that device.
START/OPEN	Specifies the time, in *HH.MM.SS* format, the dataset was opened.
END/CLOSE	Specifies the time in *HH.MM.SS* format, the dataset was closed.
USAGE MIN/SEC	Specifies the amount of time the dataset was processed.

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Field	Definition
D/S CREATION: JOB	Specifies the dataset creation job.
D/S CREATION: DATE	Specifies the dataset creation date.
DISK SPACE ALLOCAT: START	Specifies the beginning address of a disk extent.
DISK SPACE ALLOCAT: REQST	Specifies the amount of allocation requested for the extent.
DISK SPACE ALLOCAT: TRUNC	Specifies the extent size after truncation.

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Example

The following is an example of a TSIDARP Activity Log report.

```
                                        J O B   A C C O U N T I N G   S Y S T E M                    TSIDARP= 6.01.00
 C.P.U. NO. 111111   DATE 12/02/1997          A C T I V I T Y   L O G      RUN DATE 12/04/1997  TIME 13.19.49 PAGE    1
  JOB     PHASE   C.P.U.    OVER  GEN/  SERIAL  DTF        TOTAL   START/    END/   USAGE  -D/S CREATION----DISK SPACE ALLOCAT-
 NAME     NAME   PART    TIME     HEAD  REEL    NO.  TYPE UNIT   I/O      OPEN    CLOSE  MIN/SEC   JOB    DATE    START  REQST TRUNC

DUMMY             BG     00.1     00.1                                  09.30.15 09.30.17     .02 PROG TERMINATED INTERR.HEX CODE 00
.....................................................................................................................................
BGINIT   IESWAIT  BG     00.3     00.2                                  09.29.40 09.30.10     .30
VERIFYJ1 VERIFYJO BG     00.7     00.5                                  09.56.19 09.56.39     .20
         DISK OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          11  CKD001  20   160     91  09.56.31                 VERIFYJ1 097336  10176     33    33
    CLOSED AS OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          11  CKD001  20   160                 09.56.35         VERIFYJ1 097336  10176     33     2
.....................................................................................................................................
VERIFYJ1 VERIFYJO BG     00.7     00.5                                  09.57.47 09.58.05     .18
         DISK OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          12  CKD001  20   160     91  09.57.58                 VERIFYJ1 097336  10176     33    33
    CLOSED AS OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          12  CKD001  20   160                 09.58.02         VERIFYJ1 097336  10176     33     2
.....................................................................................................................................
VERIFYJ1 VERIFYJO BG     00.7     00.5                                  10.01.52 10.02.16     .24
VERIFYJ1 VERIFYJO BG     00.7     00.5                                  10.03.40 10.04.05     .25
VERIFYJ1 VERIFYJI BG     00.6     00.5                                  10.09.02 10.09.19     .17
         DISK OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          13  CKD001  20   160     70  10.08.57                 VERIFYJ1 097336  10176     33    33
    CLOSED AS OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          13  CKD001  20   160                 10.09.01         VERIFYJ1 097336  10176     33     2
    CLOSED AS INPUT   VERIF.CONTROLLED.CAT
                                          13  CKD001  20   160                 10.09.16         VERIFYJ1 097336  10176     33     2
          DISK INPUT  VERIFYJ.CONTROLLED.CAT
                                          13  CKD001  20   160       * 10.09.13                 VERIFYJ1 097336  10176     33     2
.....................................................................................................................................
VERIFYJ1 JCOPY    BG     00.7     00.3                                  10.08.53 10.09.02     .09
VERIFYJ1 VERIFYJI BG     00.6     00.5                                  10.10.17 10.10.31     .14
         DISK OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          14  CKD001  20   160     70  10.10.13                 VERIFYJ1 097336  10176     33    33
    CLOSED AS OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          14  CKD001  20   160                 10.10.15         VERIFYJ1 097336  10176     33     2
    CLOSED AS INPUT   VERIFYJ.CONTROLLED.CAT
                                          14  CKD001  20   160                 10.10.28         VERIFYJ1 097336  10176     33     2
          DISK INPUT  VERIFYJ.CONTROLLED.CAT
                                          14  CKD001  20   160       * 10.10.25                 VERIFYJ1 097336  10176     33     2
.....................................................................................................................................
VERIFYJ1 JCOPY    BG     00.7     00.3                                  10.10.10 10.10.16     .06
VERIFYJ1 VERIFYJI BG     00.5     00.5                                  10.16.11 10.16.25     .14
VERIFYJ1 VERIFYJI BG     00.5     00.4                                  10.14.33 10.14.55     .22
VERIFYJ1 JCOPY    BG     00.6     00.3                                  10.15.59 10.16.10     .11
 * INDICATES THAT TOTAL I/O IS FOR MULTIPLE  FILES IN SAME DEVICE
                                          J O B   A C C O U N T I N G   S Y S T E M                    TSIDARP= 6.01.00
 C.P.U. NO. 111111   DATE 12/02/1997          A C T I V I T Y   L O G      RUN DATE 12/04/1997  TIME 13.19.49 PAGE    2
  JOB     PHASE        C.P.U.    OVER  GEN/  SERIAL  DTF        TOTAL   START/    END/   USAGE  -D/S CREATION----DISK SPACE ALLOCAT-
 NAME     NAME   PART    TIME     HEAD  REEL    NO.  TYPE UNIT   I/O      OPEN    CLOSE  MIN/SEC   JOB    DATE    START  REQST TRUNC
VERIFYJ1 JCOPY    BG     00.6     00.3                                  10.14.20 10.14.33     .13
.....................................................................................................................................
TSIDRFS  TSIDRFS  F4     00.5     00.3                                  09.28.33 09.30.03    1.30
JAY      JCOPY    F4     00.6     00.3                                  09.47.48 09.47.56     .08
         DISK OUTPUT  VERIFYJ.CONTROLLED.CAT
                                           9  CKD001  20   160     23  09.45.15                 JAY      097336  10176     33    33
         DISK OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          10  CKD001  20   160       * 09.46.44                 JAY      097336  10176     33    33
         DISK OUTPUT  VERIFYJ.IJSYSLS
                                          18  EPV400  20   400     17  09.46.09                 JAY      097336    474   2000  2000
         DISK OUTPUT  VERIFYJ.IJSYSLS
                                          19  EPV400  20   400       * 09.47.29                 JAY      097336    474   2000  2000
    CLOSED AS OUTPUT  VERIFYJ.CONTROLLED.CAT
                                           9  CKD001  20   160                 09.45.20         JAY      097336  10176     33     2
    CLOSED AS OUTPUT  VERIFYJ.CONTROLLED.CAT
                                          10  CKD001  20   160                 09.46.51         JAY      097336  10176     33     2
    CLOSED AS OUTPUT  VERIFYJ.IJSYSLS
                                          18  EPV400  20   400                 09.46.13         JAY      097336    474   2000   416
    CLOSED AS OUTPUT  VERIFYJ.IJSYSLS
                                          19  EPV400  20   400                 09.47.32         JAY      097336    474   2000   416
    CLOSED AS INPUT   VERIFYJ.CONTROLLED.CAT
                                           9  CKD001  20   160                 09.45.36         JAY      097336  10176     33     2
    CLOSED AS INPUT   VERIFYJ.CONTROLLED.CAT
                                          10  CKD001  20   160                 09.47.05         JAY      097336  10176     33     2
    CLOSED AS INPUT   VERIFYJ.IJSYSLS
                                          18  EPV400  20   400                 09.46.28         JAY      097336    474   2000   416
    CLOSED AS INPUT   VERIFYJ.IJSYSLS
```


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TSIDBRP Report

Description

TSIDBRP creates the DSN/JOB Cross Reference report, which is a cross-reference to the Activity Log report, listing open and close activity sequenced by dataset name. TSIDBRP also creates the Accepted Tapes report which lists each time ACCEPT was used as a response to message EP008 or EP009.

Each dataset is reported with a separate line for each open and each close. The last column, which has no header, specifies whether the line refers to open or close activity and whether the file was used as input or output. The message OPEN OUTPUT|INPUT NEXT REEL|EXTENT indicates that an open was initiated for the next reel or extent in the sequence.

Definitions

The following describes the fields located on the DSN/JOB Cross-Reference report.

Field	Definition
FILE NAME	Specifies the name of the dataset opened or closed.
JOB NAME	Specifies the name of the job which initiated the activity.
PHASE NAME	Specifies the name of the program being reported.
CPUID	Specifies the CPU the program ran in.
RUN DATE	Specifies the date the job ran.
TIME	Specifies the time the job started.
PART	Specifies the partition the job ran in.
SERIAL NO.	Specifies the volume serial number which was opened or closed.
DEVICE: TYPE NO.	Specifies the type of device used and the device address.
REEL NO.	Specifies the reel or extent sequence number.
START TRACK	Specifies the starting address of disk extents.
NO. OF TRACKS	Specifies the number of tracks requested for the allocation.
TRACKS TRUNCT.	Specifies the number of tracks after truncation.

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Example

The following is an example of a TSIDBRP DSN/JOB Cross Reference report.

```
J O B   A C C O U N T I N G   S Y S T E M                    TSIDBRP= 6.1
DSN / JOB CROSS REFERENCE      RUN DATE 04/16/1998  TIME 13.16.35         PAGE    1

                   JOB      PHASE   CPUID    RUN                 SERIAL  -DEVICE-   REEL  START   NO OF   TRACKS
FILE NAME          NAME     NAME             DATE      TIME  PART   NO.  TYPE  NO.    NO.  TRACK   TRACKS  TRUNCT.


VERIFY6.FILE01                    G=0000002
                   VERIFY6  JCOPY    222222 04/15/1998 06.19.25 BG CKD001 DISK  160          9645      15      15 OPENED OUTPUT
                                     222222            06.19.31 BG CKD001 DISK  160          9645      15       7 CLOSED OUTPUT

VERIFY6.FILE01                    G=0000003
                   VERIFY6  JCOPY    222222 04/15/1998 06.19.35 BG CKD001 DISK  160          9652      15      15 OPENED OUTPUT
                                     222222            06.19.44 BG CKD001 DISK  160          9652      15       7 CLOSED OUTPUT

VERIFY6.FILE01                    G=0000004
                   VERIFY6  JCOPY    222222 04/15/1998 06.19.47 BG CKD001 DISK  160          9659      15      15 OPENED OUTPUT
                                     222222            06.19.54 BG CKD001 DISK  160          9659      15       7 CLOSED OUTPUT

VERIFY6.FILE01                    G=0000005
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.00 BG CKD001 DISK  160          9666      15      15 OPENED OUTPUT
                                     222222            06.20.06 BG CKD001 DISK  160          9666      15       7 CLOSED OUTPUT

VERIFY6.FILE01                    G=0000006
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.10 BG CKD001 DISK  160          9749      15      15 OPENED OUTPUT
                                     222222            06.20.18 BG CKD001 DISK  160          9749      15       7 CLOSED OUTPUT
                            TSIDOFL  222222            06.27.30 BG CKD001 DISK  160          9749      15       7 OPENED INPUT
                                     222222            06.27.31 BG CKD001 DISK  160          9749      15       7 CLOSED INPUT

VERIFY6.FILE01                    G=0000007
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.20 BG CKD001 DISK  160          9756      15      15 OPENED OUTPUT
                                     222222            06.20.27 BG CKD001 DISK  160          9756      15       7 CLOSED OUTPUT
                            TSIDOFL  222222            06.27.32 BG CKD001 DISK  160          9756      15       7 OPENED INPUT
                                     222222            06.27.33 BG CKD001 DISK  160          9756      15       7 CLOSED INPUT

VERIFY6.FILE01                    G=0000008
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.29 BG CKD001 DISK  160          9763      15      15 OPENED OUTPUT
                                     222222            06.20.35 BG CKD001 DISK  160          9763      15       7 CLOSED OUTPUT
                            TSIDOFL  222222            06.27.33 BG CKD001 DISK  160          9763      15       7 OPENED INPUT
                                     222222            06.27.34 BG CKD001 DISK  160          9763      15       7 CLOSED INPUT

VERIFY6.FILE01                    G=0000009
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.37 BG CKD001 DISK  160          9770      15      15 OPENED OUTPUT
                                     222222            06.20.44 BG CKD001 DISK  160          9770      15       7 CLOSED OUTPUT

VERIFY6.FILE01                    G=0000010
                   VERIFY6  TSIDONL  222222 04/15/1998 06.28.11 BG CKD001 DISK  160          9787      15      15 OPENED OUTPUT
                                     222222            06.28.14 BG CKD001 DISK  160          9787      15       7 CLOSED OUTPUT

VERIFY6.FILE02                    G=0000002
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.48 BG CKD001 DISK  160          9673       5       5 OPENED OUTPUT
                                     222222            06.20.55 BG CKD001 DISK  160          9678       2       2 OUTPUT NEXT EXTENT
                                     222222            06.20.56 BG CKD001 DISK  160          9678       2       2 CLOSED OUTPUT
                            TSIDOFL  222222            06.27.16 BG CKD001 DISK  160          9673       5       5 OPENED INPUT
                                     222222            06.27.16 BG CKD001 DISK  160          9678       2       2 OPENED INPUT
                                     222222            06.27.17 BG CKD001 DISK  160          9673       5       5 CLOSED INPUT

VERIFY6.FILE02                    G=0000003
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.59 BG CKD001 DISK  160          9777       5       5 OPENED OUTPUT
                   VERIFY6  JCOPY    222222 04/15/1998 06.20.59 BG CKD001 DISK  160          9777       5       5 OPENED OUTPUT
                                     222222            06.21.04 BG CKD001 DISK  160          9680       2       2 OUTPUT NEXT EXTENT
                                     222222            06.21.06 BG CKD001 DISK  160          9680       2       2 CLOSED OUTPUT
                            TSIDOFL  222222            06.27.18 BG CKD001 DISK  160          9777       5       5 OPENED INPUT
                                     222222            06.27.19 BG CKD001 DISK  160          9777       5       5 CLOSED INPUT
                                     222222            06.27.19 BG CKD001 DISK  160          9680       2       2 OPENED INPUT

VERIFY6.FILE02                    G=0000004
                   VERIFY6  JCOPY    222222 04/15/1998 06.21.08 BG CKD001 DISK  160          9782       5       5 OPENED OUTPUT
                                     222222            06.21.14 BG CKD001 DISK  160          9682       2       2 OUTPUT NEXT EXTENT
                                     222222            06.21.16 BG CKD001 DISK  160          9682       2       2 CLOSED OUTPUT
                            TSIDOFL  222222            06.27.20 BG CKD001 DISK  160          9782       5       5 OPENED INPUT
                                     222222            06.27.21 BG CKD001 DISK  160          9682       2       2 OPENED INPUT
                                     222222            06.27.22 BG CKD001 DISK  160          9782       5       5 CLOSED INPUT

VERIFY6.FILE02                    G=0000005
                   VERIFY6  JCOPY    222222 04/15/1998 06.21.18 BG CKD001 DISK  160          9787       5       5 OPENED OUTPUT
                                     222222            06.21.24 BG CKD001 DISK  160          9792       2       2 OUTPUT NEXT EXTENT
                                     222222            06.21.25 BG CKD001 DISK  160          9792       2       2 CLOSED OUTPUT
                            TSIDOFL  222222            06.27.23 BG CKD001 DISK  160          9787       5       5 OPENED INPUT
                                     222222            06.27.24 BG CKD001 DISK  160          9787       5       5 CLOSED INPUT
                                     222222            06.27.24 BG CKD001 DISK  160          9792       2       2 OPENED INPUT
```


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Definitions

The following describes the fields located on the Accepted Tapes report.

Field	Definition
REQUESTED FILE NAME	Specifies the name of the dataset requested by the job.
REQUESTED SERIAL NO.	Specifies the volume serial number requested by the job. A serial number of 000000 indicates that the real volume number is not known.
ACCEPTED FILE NAME	Specifies the name of the dataset accepted.
ACCEPTED SERIAL NO.	Specifies the volume serial number accepted. A serial number of 000000 indicates that the real volume number is unknown.
JOB NAME	Specifies the job that was running when the operator accepted the tape.
PHASE NAME	Specifies the phase that was running when the operator accepted the tape.
DATE	Specifies the date the tape was accepted.
TIME	Specifies the time the tape was accepted.
PART	Specifies the partition the job was running in.

Example

The following is an example of the TSIDBRP Accepted Tapes report:

```
J O B   A C C O U N T I N G   S Y S T E M                    TSIDBRP= 6.1
                                        ACCEPTED TAPES REPORT         RUN DATE 12/30/1997  TIME 07.28.58   PAGE  1

---------REQUESTED--------  ----------ACCEPTED--------
SERIAL                     SERIAL     JOB       PHASE
FILE NAME            NO.   FILE NAME            NO.     NAME       NAME      DATE       TIME  PART

VERIFY4.EMPTY      000000   *** UNLABELED ***  000000  VERIFY41  JCOPY     12/30/1997  06.16.42  U1
VERIFY4.EMPTY      000000   VERIFY4.UNCONTROL  VRFY41  VERIFY41  JCOPY     12/30/1997  06.16.59  U1
VERIFY4.TAPE       VRFY42   VERIFY4.UNCONTROL  VRFY41  VERIFY41  JCOPY     12/30/1997  06.17.33  U1
VERIFY4.EMPTY      000000   VERIFY4.TAPE1      VRFY41  VERIFY41  JCOPY     12/30/1997  06.17.56  U1
VERIFY4.TAPE2      VRFY42   VERIFY4.TAPE1      VRFY41  VERIFY41  JCOPY     12/30/1997  06.18.05  U1
VERIFY4.TAPE2      VRFY42   VERIFY4.TAPE1      VRFY41  VERIFY41  JCOPY     12/30/1997  06.18.18  U1
VERIFY4.SEVENTEEN  VRFY41   VERIFY4.MORE.THAN  VRFY42  VERIFY41  JCOPY     12/30/1997  06.18.47  U1
VERIFY4.MORE.THAN  VRFY42   VERIFY4.SEVENTEEN  VRFY41  VERIFY41  JCOPY     12/30/1997  06.18.59  U1
VERIFY4.SEVENTEEN  VRFY41   VERIFY4.MORE.THAN  VRFY42  VERIFY41  JCOPY     12/30/1997  06.19.13  U1
VERIFY4.MORE.THAN  VRFY42   VERIFY4.SEVENTEEN  VRFY41  VERIFY41  JCOPY     12/30/1997  06.19.25  U1
```


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TSIDDIS Report

Description

TISDDIS produces a summary report correlating dataset versions and tape volume serial numbers. The information in the TISDDIS summary report is listed by dataset name order with one entry for each dataset version. However, if a version spans more than one volume, there is an entry for each volume.

See Chapter 12, “Dataset to Tape Report (TSIDDIS),” for additional information on the TSIDDIS report.

Definitions

The following describes the fields located on the TSIDDIS report.

Field	Definition
DATASET NAME	Specifies the dataset name. Versions and reels listed between this name and the next name belong to this dataset name.
VER	Specifies the relative version number of the version.
REEL	Specifies the reel sequence number associated with the tape, which is important for multi-volume versions.
SER NO	Specifies the volume serial number of the tape associated with the version.

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Example

The following is an example of the TSIDDIS Dataset Management report.

```
 TSIDDIS= 6.01.00                    D A T A   S E T   M A N A G E M E N T   S Y S T E M                    PAGE    1
TIME 14 06 30                                                                                    DATE 12/04/1997

DATA SET NAME                                VER REEL SER NO      DATA SET NAME                                VER REEL   SER NO
$$$.VERIFY8.JUAN                               *** EMPTY ***      CI.PROD.NCL.EL511WA.MTH511.ENTRY               1    1 012086
A-R TAPE                                         1    1 001249      CI.PROD.NCL.EL511WA.VNB511.ENTRY             1    1 011950
                                                 2    1 000114                                                   2    1 012093
ALERT.AUDIT.HIST                                 1    1 000092      CI.PROD.NCL.EL513WA.EL513.ENTRY              1    1 011635
                                                 2    1 000057                                                   2    1 011989
                                                 3    1 000455                                                   3    1 011966
AR.PROD.LGX.AR192BKP.GVEXPORT.AR192RST           1    1 011609                                                   4    1 011954
                                                 2    1 011918                                                   5    1 011859
                                                 3    1 012056                                                   6    1 012130
AR.PROD.LGX.EL588BKP.GVEXPORT.EL588RST           1    1 011615                                                   7    1 012122
                                                 2    1 011932                                                   8    1 012105
                                                 3    1 012087                                                   9    1 012085
AR.PROD.NCL.CASHRCT.CASHRBKP.DAILY               1    1 011610                                                  10    1 012099
                                                 2    1 011904      CI.PROD.NCL.E001WA.P4107WRK.JE004RPT         1    1 010947
                                                 3    1 012057                                                   2    1 012111
AR.PROD.NCL.ELME3BKP.GVEXPORT.ELME3RST           1    1 010523                                                   3    1 010108
                                                 2    1 011185                                                   4    1 011489
                                                 3    1 011495                                                   5    1 010189
AR.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE            1    1 090783                                                   6    1 011560
                                                 2    1 090651                                                   7    1 011559
                                                 3    1 090529      CI.TEST.LGX.EL512BKP.GVEXPORT.EL512RST       1    1 011498
                                                 4    1 090424                                                   2    1 012223
                                                 5    1 090217      CI.TEST.NCL.EL511WA.CI003CNV.ENTRY           1    1 010464
                                                      2 090218      CI.TEST.NCL.EL511WA.CI005CNV.ENTRY           1    1 011505
                                                 6    1 090123                                                   2    1 011496
                                                 7    1 090122                                                   3    1 012226
AR.PROD.NCL.ERBFWD.EL863.MONTHEND                1    1 010405                                                   4    1 012236
AR.PROD.NCL.EREXTR.EL860.MONTHEND                1    1 012145      CI.TEST.NCL.EL511WA.VNB511.ENTRY             1    1 011521
                                                 2    1 012062      CI.TEST.NCL.EL513WA.EL513.ENTRY              1    1 011494
                                                 3    1 010340                                                   2    1 012228
AR.PROD.NCL.EREXTR.EL860.OFFSITE                 1    1 090785      CL.PROD.LGX.CLDLYBKP.GVEXPORT.CLDLYRST       1    1 011621
                                                 2    1 090653                                                        2 011629
                                                 3    1 090531                                                   2    1 011961
                                                 4    1 090425                                                        2 011947
                                                 5    1 090209                                                   3    1 012135
                                                 6    1 090149                                                        2 012089
                                                 7    1 090126      CL.PROD.LGX.CLEOMBKP.GVEXPORT.CLEOMRST       1    1 011530
AR.PROD.NCL.ERPNDB.EL860.MONTHEND                1    1 012149                                                        2 011516
                                                 2    1 012067      CL.PROD.LGX.CL311BKP.GVEXPORT.CL311RST       1    1 011623
                                                 3    1 010351                                                        2 011644
AR.PROD.NCL.ERPNDB.EL860.OFFSITE                 1    1 090786                                                   2    1 011968
                                                 2    1 090654                                                        2 011969
                                                 3    1 090532                                                   3    1 012097
                                                 4    1 090426                                                        2 012139
                                                 5    1 090208      CL.PROD.LGX.ELEXTR.CLEXTBKP.CLDLY            1    1 011637
                                                 6    1 090128                                                   2    1 011974
                                                 7    1 090127                                                   3    1 012136
AR.PROD.NCL.ERPYAJ.EL860.MONTHEND                1    1 012147                                                   4    1 010787
                                                 2    1 012038                                                   5    1 010767
                                                 3    1 010355                                                   6    1 011322
AR.PROD.NCL.ERPYAJ.EL860.OFFSITE                 1    1 090880                                                   7    1 010220
                                                 2    1 090784      CL.PROD.LGX.ELEXTR.CLEXTEOM.OFFSITE          1    1 090765
                                                 3    1 090652                                                   2    1 090635
                                                 4    1 090530                                                   3    1 090491
                                                 5    1 090423                                                   4    1 090340
                                                 6    1 090210                                                   5    1 090156
                                                 7    1 090125                                                   6    1 090102
                                                 8    1 090124                                                   7    1 090101
BILRECS BKUP TAPE                                1    1 000050      CL.PROD.LGX.ELHAF.CLHAFCPY.MONTHEND          1    1 011393
                                                 2    1 000024                                                        2 011395
                                                 3    1 000061                                                        3 011397
                                                 4    1 000019                                                   2    1 011865
                                                 5    1 000143                                                        2 011855
                                                 6    1 000305                                                        3 011867
                                                 7    1 000035      CL.PROD.LGX.ELHAF.EL309.MONTHEND             1    1 010715
BUD.ACASH.BKUP                                   1    1 000182                                                        2 010716
BUDGET.SQLBKUP                                   1    1 001056                                                        3 010718
                                                 2    1 000252                                                   2    1 011861
                                                 3    1 000432                                                        2 011854
BUDGET.SQLBKUP1                                  1    1 001056                                                        3 011864
                                                 2    1 000252                                                   3    1 010798
                                                 3    1 000432                                                        2 010804
CASH.BUD1.BKUP                                   1    1 000149                                                        3 010839
CASH.BUD2.BKUP                                   1    1 000149      CL.PROD.LGX.EL000BKP.CLEOMREN.OFFSITE        1    1 090769
CI.PROD.LGX.EL512BKP.GVEXPORT.EL512RST           1    1 011625                                                        2 090770
                                                 2    1 011967                                                        3 090771
                                                 3    1 011953                                                        4 090772
                                                 4    1 011938                                                        5 090773
                                                 5    1 011850                                                        6 090774
                                                 6    1 011851                                                        7 090775
```


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TSIDJAC Report

Description

TSIDJAC creates the Job Time Activity report, which lists job accounting information by CPU and by job.

Definitions

The following describes the fields located on the Job Time Activity report.

Field	Definition
CPU NO.	Specifies the CPU being reported.
JOB NAME	Specifies the name of the job which initiated the activity.
RUN DATE	Specifies the date the job ran.
PHASE NAME	Specifies the name of the program being reported.
PART ID	Specifies the partition in which the job ran.
START TIME	Specifies the time, in *hh.mm.ss* format, the phase started.
END TIME	Specifies the time the phase completed.
DURATION TIME	Specifies the length of time the phase ran.
CPU TIME	Specifies the amount of CPU time the program used.
OVERHEAD	Specifies the program overhead, as defined by IBM.
TOTAL I/O	Specifies the amount of I/O issued by the program to that device.

In addition, grand totals for DURATION TIME, CPU TIME, OVERHEAD, and TOTAL I/O are listed at the end of the report.

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Example

The following is an example of the TSIDJAC Job Time Activity report:

```
J O B   A C C O U N T I N G   S Y S T E M                    TSIDJAC= 6.01.00
C.P.U. NO. 111111      RUN DATE 12/04/1997     *  J O B  T I M E  A C T I V I T Y  *          TIME 13.20.07              PAGE    1
  JOB            RUN         PHASE         PART       START         END        DURATION          CPU          OVER          TOTAL
  NAME           DATE        NAME           ID         TIME         TIME          TIME           TIME          HEAD          I/O

BGINIT         12/02/1997    IESWAIT        BG       09.29.40      09.30.10      00.00.30       00.00.3       00.00.2          238
                                                                                  00.00.30*      00.00.3*      00.00.2*         238*
                                                                                  00.00.30**     00.00.3**     00.00.2**        238**

DUMMY          12/02/1997                   BG       09.30.15      09.30.17      00.00.02       00.00.1       00.00.1           44
                                                                                  00.00.02*      00.00.1*      00.00.1*          44*
                                                                                  00.00.02**     00.00.1**     00.00.1**         44**

DYNBGN1        12/02/1997                   Z1       09.28.33      09.30.29      00.01.56       00.01.0       00.00.4          191
                                                                                  00.01.56*      00.01.0*      00.00.4*         191*
                                                                                  00.01.56**     00.01.0**     00.00.4**        191**

F6BGN          12/02/1997                   F6       09.27.56      09.30.07      00.02.11       00.01.1       00.00.5          189
                                                                                  00.02.11*      00.01.1*      00.00.5*         189*
                                                                                  00.02.11**     00.01.1**     00.00.5**        189**

F7BGN          12/02/1997                   F7       09.27.58      09.30.14      00.02.16       00.01.1       00.00.5          189
                                                                                  00.02.16*      00.01.1*      00.00.5*         189*
                                                                                  00.02.16**     00.01.1**     00.00.5**        189**

F8BGN          12/02/1997                   F8       09.27.59      09.30.13      00.02.14       00.01.0       00.00.5          189
                                                                                  00.02.14*      00.01.0*      00.00.5*         189*
                                                                                  00.02.14**     00.01.0**     00.00.5**        189**

F9BGN          12/02/1997                   F9       09.28.01      09.30.16      00.02.15       00.01.1       00.00.5          189
                                                                                  00.02.15*      00.01.1*      00.00.5*         189*
                                                                                  00.02.15**     00.01.1**     00.00.5**        189**

JAY            12/02/1997    JCOPY          F4       09.44.59      09.45.22      00.00.23       00.01.1       00.00.7          705
               12/02/1997    VERIFYJI       F4       09.45.22      09.45.39      00.00.17       00.00.5       00.00.5          524
               12/02/1997    JCOPY          F4       09.45.39      09.45.45      00.00.06       00.00.8       00.00.3          336
               12/02/1997    TSIDLVT        F4       09.45.46      09.46.15      00.00.29       00.01.7       00.00.7          696
               12/02/1997    JCOPY          F4       09.46.15      09.46.31      00.00.16       00.01.1       00.00.4         1448
               12/02/1997    JCOPY          F4       09.46.32      09.46.38      00.00.06       00.00.6       00.00.3          245
               12/02/1997    JCOPY          F4       09.46.38      09.46.53      00.00.15       00.00.6       00.00.4          357
               12/02/1997    VERIFYJI       F4       09.46.54      09.47.07      00.00.13       00.00.5       00.00.5          521
               12/02/1997    JCOPY          F4       09.47.07      09.47.14      00.00.07       00.00.7       00.00.3          336
               12/02/1997    TSIDLVT        F4       09.47.14      09.47.33      00.00.19       00.01.7       00.00.7          684
               12/02/1997    JCOPY          F4       09.47.33      09.47.47      00.00.14       00.01.1       00.00.4         1457
               12/02/1997    JCOPY          F4       09.47.48      09.47.56      00.00.08       00.00.6       00.00.3          400
               12/02/1997    JCOPY          F4       09.50.11      09.50.31      00.00.20       00.01.0       00.00.6          635
               12/02/1997    VERIFYJI       F4       09.50.32      09.50.44      00.00.12       00.00.5       00.00.5          485
               12/02/1997    TSIDLVT        F4       09.50.45      09.51.02      00.00.17       00.01.7       00.00.7          684
               12/02/1997    JCOPY          F4       09.51.03      09.51.07      00.00.04       00.01.0       00.00.4         1446
               12/02/1997    JCOPY          F4       09.51.08      09.51.11      00.00.03       00.00.5       00.00.3          248
               12/02/1997    JCOPY          F4       09.51.11      09.51.17      00.00.06       00.00.6       00.00.3          284
               12/02/1997    VERIFYJI       F4       09.51.17      09.51.31      00.00.14       00.00.5       00.00.5          487
               12/02/1997    TSIDLVT        F4       09.51.32      09.51.54      00.00.22       00.01.7       00.00.7          695
               12/02/1997    JCOPY          F4       09.51.54      09.52.06      00.00.12       00.01.1       00.00.4         1446
               12/02/1997    JCOPY          F4       09.52.07      09.52.15      00.00.08       00.00.6       00.00.3          404
               12/02/1997    JCOPY          F4       09.56.03      09.56.46      00.00.43       00.00.8       00.00.5          595
               12/02/1997    JCOPY          F4       09.56.46      09.56.52      00.00.06       00.00.7       00.00.2          336
               12/02/1997    TSIDLVT        F4       09.56.53      09.57.16      00.00.23       00.01.7       00.00.7          684
               12/02/1997    JCOPY          F4       09.57.16      09.57.35      00.00.19       00.01.1       00.00.4         1457
               12/02/1997    JCOPY          F4       09.57.35      09.57.43      00.00.08       00.00.6       00.00.3          244
               12/02/1997    JCOPY          F4       09.57.44      09.58.10      00.00.26       00.00.4       00.00.2          251
               12/02/1997    JCOPY          F4       09.58.10      09.58.15      00.00.05       00.00.7       00.00.2          336
               12/02/1997    TSIDLVT        F4       09.58.16      09.58.34      00.00.18       00.01.7       00.00.8          686
               12/02/1997    JCOPY          F4       09.58.35      09.58.48      00.00.13       00.01.1       00.00.4         1446
               12/02/1997    JCOPY          F4       09.58.48      09.58.55      00.00.07       00.00.6       00.00.3          389
               12/02/1997    JCOPY          F4       10.01.37      10.02.23      00.00.46       00.00.9       00.00.5          613
               12/02/1997    TSIDLVT        F4       10.02.24      10.02.58      00.00.34       00.01.7       00.00.7          684
               12/02/1997    JCOPY          F4       10.02.58      10.03.23      00.00.25       00.01.1       00.00.4         1457
               12/02/1997    JCOPY          F4       10.03.24      10.03.34      00.00.10       00.00.5       00.00.3          242
               12/02/1997    JCOPY          F4       10.03.34      10.04.11      00.00.37       00.00.4       00.00.2          269
               12/02/1997    TSIDLVT        F4       10.04.11      10.04.29      00.00.18       00.01.7       00.00.7          684
               12/02/1997    JCOPY          F4       10.04.30      10.04.42      00.00.12       00.01.1       00.00.4         1455
               12/02/1997    JCOPY          F4       10.04.42      10.04.50      00.00.08       00.00.6       00.00.3          389
               12/02/1997    JCOPY          F4       10.08.41      10.09.22      00.00.41       00.00.9       00.00.5          600
               12/02/1997    JCOPY          F4       10.09.23      10.09.27      00.00.04       00.00.7       00.00.2          336
               12/02/1997    TSIDLVT        F4       10.09.28      10.09.45      00.00.17       00.01.7       00.00.7          684
               12/02/1997    JCOPY          F4       10.09.45      10.09.57      00.00.12       00.01.1       00.00.4         1446
               12/02/1997    JCOPY          F4       10.09.58      10.10.06      00.00.08       00.00.5       00.00.3          244
               12/02/1997    JCOPY          F4       10.10.06      10.10.35      00.00.29       00.00.4       00.00.2          256
               12/02/1997    JCOPY          F4       10.10.35      10.10.37      00.00.02       00.00.7       00.00.2          336
               12/02/1997    TSIDLVT        F4       10.10.38      10.10.48      00.00.10       00.01.7       00.00.7          693
               12/02/1997    JCOPY          F4       10.10.48      10.10.56      00.00.08       00.01.1       00.00.4         1446
               12/02/1997    JCOPY          F4       10.10.56      10.11.09      00.00.13       00.00.6       00.00.3          398
               12/02/1997    JCOPY          F4       10.14.05      10.15.01      00.00.56       00.00.9       00.00.5          619
```


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TSIDLVT Report

Description

TSIDLVT lists VTOC data in batch. The report format varies depending on the options you choose when submitting the JCL.

See Chapter 12, “Moving Volumes (TSIDVLT),” for additional information on printing reports.

Definitions

The following describes the fields located on the TSIDLVT report.

Field	Definition
DISPLAY OF	Identifies the content of the report, either SER=volser or the name of the pool.
FILE NAME	Specifies the name of the dataset residing in the specified pools of the VTOC.
SERIAL	Specifies the volume serial number the extent resides on.
EXT SEQ	Specifies the extent sequence number.
EXTENT START	Specifies the starting extent address.
EXTENT END	Specifies the ending extent address.
EXTENT NUMBER	Specifies the number of extents occupied by the dataset.
CREATE DATE	Specifies the date the dataset was created.
EXPIRE DATE	Specifies the expiration date written on the VTOC.
DISK TYPE	Specifies the type of disk device.
FILE TYPE	Specifies the dataset file type.
EXT	Specifies the extent has expired if printed in the far right column.

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Example

The following is an example of the TSIDLVT report.

```
*-------------------------------------------------------------------------------------------------------------------------------*
*                                                                                                                               *
*                        REPORT FOR SERIAL NUMBER=CKD001                                                                        *
*                                                                                                                               *
*                        OPTIONS IN EFFECT - PRINT IN EXT SEQUENCE                                                              *
*                                            LIST EXPIRED EXTENTS                                                               *
*                                            IGNORE POOL LIMITS                                                                 *
*                                            LIST FREE SPACE                                                                    *
*                                            LIST IN RELATIVE TRACK/BLOCK FORMAT                                                *
*                                            USE CONVENTIONAL DATE FORMAT MM/DD/YYYY                                            *
*                                            LIST UNEXPIRED EXTENTS                                                             *
*-------------------------------------------------------------------------------------------------------------------------------*
DATE 12/11/1997        DISPLAY OF              E P I C      V T O C      R E P O R T                VOLSER CKD001  TSIDLVT 6.1
TIME 14 30 16          SER=CKD001        V O L S E R   I N   E X T E N T   S E Q U E N C E          CUU     160           PAGE   1
                                         SERIAL  EXT   ---------- EXTENT ----------    CREATE      EXPIRE    DISK  FILE
            FILE NAME                            SEQ    START      END      NUMBER     DATE        DATE      TYPE  TYPE

VSE.POWER.QUEUE.CKD.FILE                 CKD001    0        1        4        4  09/18/1997  12/31/1999  3390  DA
******* FREE SPACE *******                CKD001             5       14       10                         3390
BIMEDIT.CKD.BIFLIB                       CKD001    0       15      674      660  06/24/1997  12/31/1999  3390  DA
Z9999994.VSAMDSPC.TAE74BEB.T03FDC09      CKD001    0      675      689       15  04/03/1997  12/32/1999  3390  VSAM
Z9999992.VSAMDSPC.TAE74BEB.T5C0E97E      CKD001    0      690     6689     6000  04/03/1997  12/32/1999  3390  VSAM
VSE.POWER.DATA.CKD.FILE                  CKD001    0     6690     7139      450  09/18/1997  12/31/1999  3390  DA
VSE.BIM.COLUMBUS.LIB6                    CKD001    0     7140     8264     1125  07/11/1997  12/31/2099  3390  SD
VSE.BIM.COLUMBUS.MON.PDS                 CKD001    0     8265     8534      270  07/10/1997  12/31/2099  3390  SD
VSE.BIM.COLUMBUS.VIO.PDS                 CKD001    0     8535     9134      600  07/10/1997  12/31/2099  3390  SD
VSE.BIM.COLUMBUS.EVT.PDS                 CKD001    0     9135     9314      180  07/11/1997  12/31/2099  3390  SD
VSE.BIM.COLUMBUS.LOG.PDS                 CKD001    0     9315     9374       60  07/10/1997  12/31/2099  3390  SD
VSE.BIM.COLUMBUS.CPR.PDS                 CKD001    0     9375     9464       90  07/10/1997  12/31/2099  3390  SD
VSE.BIM.COLUMBUS.ARC.PDS                 CKD001    0     9465     9509       45  07/10/1997  12/31/2099  3390  SD
EAK294.RECORDER.DATA                     CKD001    1     9510     9521       12  12/04/1997  12/11/1997  3390  SD         EXP
******* FREE SPACE *******                CKD001             9522     9549       28                         3390
I17007.RECORDER.FILE.BACKUP              CKD001    1     9550     9558        9  08/06/1997  12/31/2099  3390  SD
I17007.CATALOG.FASTBU                    CKD001    1     9559     9709      151  08/06/1997  12/31/2099  3390  SD
F43.TSIDUTL.WORK.FILE                    CKD001    1     9710     9711        2  12/04/1997  12/11/1997  3390  SD         EXP
******* FREE SPACE *******                CKD001             9712    10173      462                         3390
HEWTEST1.Y2000.Y2000           G=0000002 CKD001    1    10174    10175        2  11/14/1997  12/31/2099  3390  SD
******* FREE SPACE *******                CKD001            10176    10214       39                         3390
VSE.BIM.COLUMBUS.LIBRARY                 CKD001    0    10215    12314     2100  09/10/1997  12/31/1999  3390  SD
******* FREE SPACE *******                CKD001            12315    13058      744                         3390
HEW.RECORDER.FILE.BU.Y2000               CKD001    1    13059    13060        2  11/14/1997  12/14/1997  3390  SD
******* FREE SPACE *******                CKD001            13061    13107       47                         3390
HEW.RECORDER.FILE.BU.Y2000.BIG           CKD001    1    13108    13119       12  11/18/1997  12/18/1997  3390  SD
******* FREE SPACE *******                CKD001            13120    13278      159                         3390
JUANTEST                       G=0000011 CKD001    1    13279    13287        9  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000012 CKD001    1    13288    13296        9  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000013 CKD001    1    13297    13306       10  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000014 CKD001    1    13307    13315        9  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000015 CKD001    1    13316    13324        9  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000016 CKD001    1    13325    13333        9  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000017 CKD001    1    13334    13342        9  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000018 CKD001    1    13343    13351        9  11/25/1997  12/31/2099  3390  SD
JUANTEST                       G=0000019 CKD001    1    13352    13360        9  11/25/1997  12/31/2099  3390  SD
******* FREE SPACE *******                CKD001            13361    16678     3318                         3390
CKD001.QDAS.REL4.SHARE.FILE              CKD001    0    16679    16679        1  11/12/1997  12/31/2099  3390  SD
VTOC                                     CKD001    0    16680    16694       15                         3390  UN
*-------------------------------------------------------------------------------------------------------------------------------*
**                      ** VOLUME STATISTICS **                                                                                 *
*                                                                                                                               *
*                  TOTAL SPACE THIS VOLUME           -             16695                                                      *
*                  TOTAL USED SPACE THIS VOLUME      -             11874                                                      *
*                  TOTAL FREE SPACE THIS VOLUME      -              4821                                                      *
*                                                                                                                               *
*-------------------------------------------------------------------------------------------------------------------------------*
```


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TSIDMNT Report

Description

TSIDMNT can produce a summary report or a detail report. To receive a summary report, request a display of all datasets or a group of datasets. To receive a detail report, request a specific dataset name or a specific volume serial number.

See Chapter 3, "TSIDMNT—DSN CATALOG MANAGEMENT UTILITY," for additional information on TSIDMNT report.

Definitions

The following describes the fields located on the TSIDMNT report.

Field	Definition
DATASET NAME	Specifies the name of the dataset.
SERIAL	Specifies the volume serial number(s) associated with the version.
VN	Specifies the version number.
RL	Specifies the reel or extent sequence number.
ST	Specifies the version status. Valid status codes are: ■ (blank)—active version ■ C—conditional catalog status ■ L—active version in a locked status ■ M—MCAT version ■ O—open status ■ S—scratch status.
BLK	Specifies the block size of the version.
REC	Specifies the record size of the version.
TYPE	Specifies the storage medium. Valid storage mediums are: ■ TAPE ■ DISK ■ EMPTY **Note:** If EMPTY is displayed, there are no versions of the requested dataset.

Detail Report

The first three lines for each dataset report the defaults. Lower lines present the version level data for the dataset.

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The following describes the BIM-EPIC dataset definition (EDD).

Field	Definition
RET	Specifies the number of days each version is to be retained.
CYC	Specifies the number of versions (cycles) to be maintained.
VLT	Specifies the number of the vault method assigned to the dataset.
WORK	Specifies a work dataset.
PASSWORD	Specifies the Unlock/Release password displayed at the far right.
REBLK	Specifies the default block size.
POOL	Specifies the disk pool name.
EXT=n	Specifies the size of the primary and secondary extent allocation. The first value is the size of the primary extent. The second value is the size of all secondary extents.
SEC	Specifies the maximum number of secondary extents allowed for a version.
ALR	Specifies the number of records for allocation by logical records.
SID	Specifies the system ID.
UID	Specifies the user ID.
(UN)LBL	Specifies whether this is a standard label tape dataset.
MOD	Specifies the default tape density.
SYSnnn	Specifies the SYS number assigned to the dataset.
REC	Specifies the actual record size of the current version.
BLK	Specifies the actual block size of the current version.
REV	Specifies whether this is a revolving tape dataset.
COM	Specifies the user comment.
TPA=	Specifies whether or not versions are to be created on TPA devices (YES|NO).
TPL	Specifies the tape pool ID.

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Version Information

The following describes the BIM-EPIC version information.

Field	Definition
SER-NO	Specifies the tape or disk volume serial number associated with this version.
VN	Specifies the version number.
RL	Specifies the reel or extent sequence number.
CREDT	Specifies the creation date in Julian format.
EXPDT	Specifies the projected expiration date.
CREAT/JB	Specifies the name of the creating job.
CUU	Specifies the drive address where the version was created.
ST	Specifies the status of the current version. Valid codes are: ■ C—conditional catalog status ■ L—active version in a locked status ■ M—MCAT version ■ O—open status ■ S—scratch status
LAST/JOB	Specifies the last job that accessed this version.
LASTDT	Specifies the last date this version was accessed.
USE	Specifies the number of times the tape was opened since the last clean date.
ERR	Specifies the number of read/write errors encountered since the last clean date.
CLN-DAT	Specifies the last clean date for this tape.
VLT	Specifies the current vault location for this tape.
SL	Specifies the current slot location for this tape.

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TSIDOFD Report

Description

TSIDOFD produces a report listing the datasets to be offloaded or backed up. See Chapter 13, “Selecting Datasets To Be Offloaded (TSIDOFD),” for additional information on TSIDOFD reports.

Definitions

The following describes the fields located on the TSIDOFD report.

Field	Definition
DATASET NAME	Specifies the name of the dataset to offload or backup.
VER	Specifies the version number of the dataset to offload or backup.
ALL VER	Specifies all versions were selected.
UID	Specifies whether the dataset was selected by user ID.
SID	Specifies whether the dataset was selected by system ID.
VOLUME	Specifies whether the dataset was selected by volume.
POOL ID	Specifies whether the dataset was selected by pool name.
S/DLA	Specifies whether the dataset was selected by SLA or DLA.
NEW	Specifies that only new datasets were selected.

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Example

The following is an example of the TSIDOFD Data Selection report.

```
TSIDOFD= 6.1                          D A T A S E T   S E L E C T I O N   R E P O R T                    PAGE   1
TIME:   15.32.06                64,466=SELECTED ENTRY TABLE SIZE USED FOR THIS PROCESSING               DATE 12/11/1997
    INCLUDE PARAMETERS            DATASET NAME              / VER   ALLVER   UID   SID   VOLUME   POOLID   S/DLA   MISC
                                                                      0001
    OMIT PARAMETERS               DATASET NAME              / VER   ALLVER   UID   SID   VOLUME   POOLID
                                                                              VU
                                  DATASETS HAVE BEEN SELECTED
                        DATASET NAME                  VER                    DATASET NAME                  VER

         ABSENTEE.TEMP                                 1       ACCOUNTS.PAYABLE.FILE                         1
         ACCTS.PAYABLE.TWO                             1       AR CONDENSE FILE                              1
         BATCH CONVERT OUT                             1       BILL BACKUP                                   1
         BILL.REPRINT.FILE                             1       BILLING.PAN.ORDER                             1
         BLS.REC                                       1       COLL.TAPE                                     1
         COLLECT JOURNAL                               1       CONST.FILE.OUT                                1
         CONSTR.JOURNAL.FILE                           1       DAILY.ARFILE.BKUP                             1
         DAILY.BDTRNMT.BKUP                            1       DAILY.BD2CES.BKUP                             1
         DAILY.BILLING                                 1       DAILY.OVERPAYMENTS                            1
         DB.MONTHLY.TRANS2                             1       DBLABOR.DISTRIBUTION                          1
         DCDCASTO.SORT                                 1       DCDMAINT INPUT                                1
         DCDRATXT.OUTPUT                               1       DEFER.BILL.BKUP                               1
         DFR.BILLNG.BKP.TAPE                           1       DISTRIBUTION.FILE                             1
         DITTO.DISK                                    1       DR-CR.OUT                                     1
         ELMET.INVENTORY.FILE                          1       EPIC.TSIDOFL.INPUT                            1
         EREP.HISTORY                                  1       EREP.HISTORY.OUT                              1
         EXPANDED.NOTICE2                              1       FA.CICS170.MSGUSR                             1
         FINAL ENTREX                                  1       FINLODE.BKUP                                  1
         FINLODE.562                                   1       FSILOAD.BKUP                                  1
         FSOHOST.BKUP                                  1       FUELLOAD.FILE                                 1
         F8.CICS170.MSGUSR                             1       GROUP1.DISKOC                                 1
         GROUP1.DISKOR                                 1       G7.BILLS                                      1
         HEWTEST1.Y2000.Y2000                          1       HP TRAN HIST                                  1
         HPL.WORK.FILE                                 1       IND.AUDIT.FILE                                1
         INVENTORY.CARD.FILE                           1       JOB.ACCT.WORK                                 1
         JOB.HIST.ACCUM                                1       JOB.HIST.DAILY                                1
         JUANTEST                                      1       LTD.CONSTR.MASTER                             1
         M & S.FILE                                    1       MAINT REPORTT                                 1
         MD.DUMMY.FILE.G30026                          1       MD.DUMMY.FILE.G30027                          1
         MD.EXTRACT.CHECK.FILE                         1       MD.GL.RECON.WRAP.FILE                         1
         MD.HRM.ADJUST.FILE                            1       MD.HRM.DISTR.INTRF                            1
         MD.HRM.PAY070.PUNCH1                          1       MD.HRM.PAY070.PUNCH10                         1
         MD.HRM.PAY070.PUNCH2                          1       MD.HRM.PAY070.PUNCH3                          1
         MD.HRM.PAY070.PUNCH4                          1       MD.HRM.PAY070.PUNCH5                          1
         MD.HRM.PAY070.PUNCH6                          1       MD.HRM.PAY070.PUNCH7                          1
         MD.HRM.PAY070.PUNCH8                          1       MD.HRM.PAY070.PUNCH9                          1
         MD.HRM.QEHCNTL                                1       MD.HRM.SAM.BONDTAP                            1
         MD.HRM.SAM.CHGFILE                            1       MD.HRM.SAM.CHKNBRS                            1
         MD.HRM.SAM.CHKOUT                             1       MD.HRM.SAM.CHKREV                             1
         MD.HRM.SAM.CNTLFIL                            1       MD.HRM.SAM.CURLAB                             1
```


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TSIDOFL Report

Description

TSIDOFL creates a report listing the datasets offloaded or backed up. See Chapter 13, “Offloading and Backing Up Datasets (TSIDOFL),” for additional information on TSIDOFL reports.

Definitions

The following describes the fields located on the TSIDOFL report.

Field	Definition
DATASET NAME	Specifies the name of the dataset offloaded or backed up.
VER	Specifies the dataset's version number.
SERIAL	Specifies the volume serial number the dataset came from.
CUU	Specifies the drive address where the version was created.
EXTENTS START	Specifies the former extent starting address.
EXTENTS END	Specifies the former extent ending address.
EXTENTS SIZE	Specifies the size of the extent.
CREATE DATE	Specifies the date the dataset was created.
EXPIRE DATE	Specifies the date the dataset is scheduled to expire.
NUMBER RECORDS	Specifies the number of records in the dataset.
BLOCK SIZE	Specifies the block size of the dataset.
RECORD SIZE	Specifies the record size.
TYPE	Specifies the file type.
FILE SEQ	Specifies the dataset file sequence on the offload tape.

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Example

The following is an example of the TSIDOFL Dataset Offload report.

```
TSIDOFL= 6.1                          D A T A S E T   O F F L O A D   R E P O R T                    PAGE 1
TIME:    9.15.09                                                                                DATE12/12/1997
                                                    -------EXTENTS-------- CREATE  EXPIRE  BLOCK  RECORD
               DATASET NAME                 VER SERIAL CUU   START     END    SIZE   DATE    DATE    SIZE   SIZE RECFM
VERIFY3.OFLONL01.FBA.RECFM.V       G=0000002   1 EPV400 400    9383    9458      76 1997346 1997346   1000   1000   VB
VERIFY3.OFLONL01.FBA.RECFM.U       G=0000002   1 EPV400 400    9318    9382      65 1997346 1997346    100    100   U
VERIFY3.OFLONL01.FBA.RECFM.S       G=0000002   1 EPV400 400    9242    9317      76 1997346 1997346   1000   1000   VBS
VERIFY3.OFLONL01.FBA.RECFM.F       G=0000002   1 EPV400 400    9090    9165      76 1997346 1997346   1000    100   FB
VERIFY3.OFLONL01.CKD.RECFM.V       G=0000002   1 CKD001 160    9535    9537       3 1997346 1997346   1234   1234   VB
VERIFY3.OFLONL01.CKD.RECFM.U       G=0000002   1 CKD001 160    9528    9534       7 1997346 1997346    100    100   U
VERIFY3.OFLONL01.CKD.RECFM.S       G=0000002   1 CKD001 160    9524    9527       4 1997346 1997346   1000   1000   VBS
VERIFY3.OFLONL01.CKD.RECFM.F       G=0000002   1 CKD001 160    9522    9523       2 1997346 1997346   1000    100   FB
TSIDOFL= 6.1                          D A T A S E T   O F F L O A D   R E P O R T                      PAGE   2
TIME:    9.15.09                                                                              DATE 12/12/1997
                                                    -------EXTENTS-------- CREATE  EXPIRE  BLOCK  RECORD
               DATASET NAME                 VER SERIAL CUU   START     END    SIZE   DATE    DATE    SIZE   SIZE RECFM
                                  VOLUME           TRACKS RELEASED          TOTAL EXTENTS
                                  EPV400              293                       4
                                  CKD001               16                       4
                                  * GRAND TOTAL *     309                       8
```


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TSIDONL Report

Description

TSIDONL creates a report listing the datasets that were onloaded. See "Onloading and Restoring Datasets (TSIDONL)," for additional information on the TSIDONL report.

Definitions

The following describes the fields located on the TSIDONL report.

Field	Definition
DATASET NAME	Specifies the name of the dataset onloaded.
OLD VER	Specifies the version number of the dataset before it was onloaded.
OLD GEN	Specifies the generation number of the dataset before it was onloaded.
NEW VER	Specifies the version number of the dataset after it was onloaded.
NEW GEN	Specifies the generation number of the dataset after it was onloaded.
NUMBER RECORDS	Specifies the number of records in the dataset.
BLOCK SIZE	Specifies the block size.
RECORD SIZE	Specifies the record size.
RECFM	Specifies the record format.
INPUT DATASET NAME	Specifies the name of the offload dataset.
INPUT SERIAL	Specifies the volume serial number of the offload tape the dataset was copied from.
FILE SEQ	Specifies the dataset file sequence on the offload tape.

Example

The following is an example of a TSIDONL Dataset Onload report.

```
TSIDONL= 6.1                          D A T A S E T   O N L O A D   R E P O R T                          PAGE   1
TIME:    9.18.55                                                                                      DATE 12/12/1997

                              ----OLD---- ----NEW----              BLOCK     RECORD       -------INPUT--------  FILE
                DATA SET NAME              GEN  VER     GEN          SIZE   SIZE  RECFM    DATASET NAME   SERIAL  SEQ
VERIFY3.OFLONL01.FBA.RECFM.V                 2    1       3          1000   1000    VB   VERIFY3.O01.TAPE  VRFY31     1
VERIFY3.OFLONL01.FBA.RECFM.U                 2    1       3           100    100    U    VERIFY3.O01.TAPE  VRFY31     1
VERIFY3.OFLONL01.FBA.RECFM.S                 2    1       3          1000   1000    VBS  VERIFY3.O01.TAPE  VRFY31     1
VERIFY3.OFLONL01.FBA.RECFM.F                 2    1       3          1000    100    FB   VERIFY3.O01.TAPE  VRFY31     1
VERIFY3.OFLONL01.CKD.RECFM.V                 2    1       3          1234   1234    VB   VERIFY3.O01.TAPE  VRFY31     1
VERIFY3.OFLONL01.CKD.RECFM.U                 2    1       3           100    100    U    VERIFY3.O01.TAPE  VRFY31     1
VERIFY3.OFLONL01.CKD.RECFM.S                 2    1       3          1000   1000    VBS  VERIFY3.O01.TAPE  VRFY31     1
VERIFY3.OFLONL01.CKD.RECFM.F                 2    1       3          1000    100    FB   VERIFY3.O01.TAPE  VRFY31     1
```


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TSIDPRV Report

Description

TSIDPRV produces the Vaulting Method report.

Definitions

The following describes the fields located on the TSIDPRV report.

Field	Definition
DATASET NAME	Specifies the name of the dataset.
NO. CYC	Specifies the number of cycles to be maintained for the dataset.
DAYS RET	Specifies the number of days each version is to be retained.
METH NO.	Specifies the vaulting method assigned to the dataset.
VER NO. *VAULT NAME*	Specify the heart of the vaulting method report. These fields correlate each version number with its designated vault location.

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Example

The following is an example of the TSIDPRV report.

```
TIME 14 09 28              * * V A U L T I N G   M E T H O D   R E P O R T  * *          DATE 12/04/1997    PAGE   1
                                                          NO. DAYS METH VER

                     AR.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE          30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     AR.PROD.NCL.EREXTR.EL860.OFFSITE               30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     AR.PROD.NCL.ERPNDB.EL860.OFFSITE               30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     AR.PROD.NCL.ERPYAJ.EL860.OFFSITE               30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     BUDGET.SQLBKUP                                  3        1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     CL.PROD.LGX.ELEXTR.CLEXTBKP.CLDLY               7    7   2    1   VAULT 1
                                                                                2   VAULT 2
                                                                                3   VAULT 3
                                                                                4   MAIN LIBRARY

                     CL.PROD.LGX.ELEXTR.CLEXTEOM.OFFSITE            30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     CL.PROD.LGX.ELHAF.CLHAFCPY.MONTHEND             2   45   3    1   MAIN LIBRARY
                                                                                2   MAIN LIBRARY
                                                                                3   VAULT 3
                                                                                4   VAULT 1
                                                                                5   MAIN LIBRARY

                     CL.PROD.LGX.EL000BKP.CLEOMREN.OFFSITE          30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     CONSTR.BACKUP                                   3        1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     CONSTR.JOURNAL.BK                               3        1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     CR.PROD.LGX.EL000BKP.ELME1REN.OFFSITE          30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2

                     CR.PROD.LGX.EL000BKP.GVEXPORT.OFFSITE          30    1   1    1   MAIN LIBRARY
                                                                                2   VAULT 1
                                                                                3   VAULT 2
```


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TSIDSDS Report

Description

TSIDSDS produces a summary report correlating dataset versions and tape volume serial numbers. The summary report is listed in volume serial number order. See Chapter 12, “Tape to Dataset Report (TSIDSDS),” for additional information on the TSIDSDS report.

There is at least one entry for each version of a dataset. If a version spans more than one volume, there is an entry for each volume.

Definitions

The following describes the fields located on the TSIDSDS report.

Field	Definition
DATASET NAME	Specifies the volume serial number.
SER NO	Specifies the name of the dataset contained in the referenced volume.

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Example

The following is an example of the TSIDSDS Dataset Management report.

```
TSIDSDS= 6.01.00                        D A T A   S E T   M A N A G E M E N T   S Y S T E M          PAGE    1
TIME 14 07 58                                                                                    DATE 12/04/1997

SER NO  --DATASET NAME--                          SER NO  --DATASET NAME--
B12017S EPIC.DISK01.BKUP                           000011  SQL.BKW.F45
B12110S EPIC.DISK01.BKUP                           000011  SQL.BKW.F46
B12183S EPIC.DISK01.BKUP                           000011  SQL.BKW.F47
B12437S EPIC.DISK01.BKUP                           000011  SQL.BKW.F48
B12500S EPIC.DISK01.BKUP                           000011  SQL.BKW.F50
B12547S EPIC.DISK01.BKUP                           000015  SQL.BKW.F01
B12862S EPIC.DISK01.BKUP                           000015  SQL.BKW.F02
B12873S EPIC.DISK01.BKUP                           000015  SQL.BKW.F03
HEW001  IDCAMS.BACKUP                              000015  SQL.BKW.F04
JA0001  IDCAMS.BACKUP                              000015  SQL.BKW.F05
T12994  T.ZEKE.AUDIT.BKUP                          000015  SQL.BKW.F06
T13014S T.ZEKE.AUDIT.BKUP                          000015  SQL.BKW.F07
000001  ELECTRIC.METER.BK                          000015  SQL.BKW.F08
000004  SQL.BKC.F01                                000015  SQL.BKW.F09
000004  SQL.BKC.F02                                000015  SQL.BKW.F10
000004  SQL.BKC.F03                                000015  SQL.BKW.F11
000004  SQL.BKC.F04                                000015  SQL.BKW.F12
000004  SQL.BKC.F05                                000015  SQL.BKW.F13
000004  SQL.BKC.F06                                000015  SQL.BKW.F14
000004  SQL.BKC.F07                                000015  SQL.BKW.F15
000004  SQL.BKC.F08                                000015  SQL.BKW.F16
000004  SQL.BKC.F09                                000015  SQL.BKW.F17
000004  SQL.BKC.F10                                000015  SQL.BKW.F18
000004  SQL.BKC.F11                                000015  SQL.BKW.F19
000004  SQL.BKC.F12                                000015  SQL.BKW.F20
000004  SQL.BKC.F13                                000015  SQL.BKW.F21
000004  SQL.BKC.F14                                000015  SQL.BKW.F22
000004  SQL.BKC.F15                                000015  SQL.BKW.F23
000004  SQL.BKC.F16                                000015  SQL.BKW.F24
000004  SQL.BKC.F17                                000015  SQL.BKW.F26
000004  SQL.BKC.F20                                000015  SQL.BKW.F27
000006  JOB.HIST.MONTH                             000015  SQL.BKW.F28
000007  PMTHIST.BKUP                               000015  SQL.BKW.F29
000009  SQL.BKC.F01                                000015  SQL.BKW.F30
000009  SQL.BKC.F02                                000015  SQL.BKW.F31
000009  SQL.BKC.F03                                000015  SQL.BKW.F32
000009  SQL.BKC.F04                                000015  SQL.BKW.F33
000009  SQL.BKC.F05                                000015  SQL.BKW.F34
000009  SQL.BKC.F06                                000015  SQL.BKW.F35
000009  SQL.BKC.F07                                000015  SQL.BKW.F36
000009  SQL.BKC.F08                                000015  SQL.BKW.F37
000009  SQL.BKC.F09                                000015  SQL.BKW.F38
000009  SQL.BKC.F10                                000015  SQL.BKW.F39
000009  SQL.BKC.F11                                000015  SQL.BKW.F40
000009  SQL.BKC.F12                                000015  SQL.BKW.F41
000009  SQL.BKC.F13                                000015  SQL.BKW.F42
000009  SQL.BKC.F14                                000015  SQL.BKW.F43
000009  SQL.BKC.F15                                000015  SQL.BKW.F44
000009  SQL.BKC.F16                                000015  SQL.BKW.F45
000009  SQL.BKC.F17                                000015  SQL.BKW.F46
000009  SQL.BKC.F20                                000015  SQL.BKW.F47
```


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TSIDTAC Report

Description

TSIDTAC produces the Date Time Activity report, which lists job accounting information by CPU and by date and time. It is a cross reference to the Job Time Activity report.

Definitions

The following describes the fields located on the TSIDTAC report.

Field	Definition
CPU NO.	Specifies the CPU being reported.
RUN DATE	Specifies the date the job ran.
JOB NAME	Specifies the name of the job initiating the activity.
PHASE NAME	Specifies the name of the program being reported.
PART ID	Specifies the partition the job ran in.
START TIME	Specifies the time the phase started. Time is displayed in *hh.mm.ss* format.
END TIME	Specifies the time the phase completed.
DURATION TIME	Specifies the length of time the phase ran.
IDLE TIME	Specifies the amount of time the CPU was idle while the phase ran. Idle time uses standard IBM definitions.
CPU TIME	Specifies the amount of CPU time used by the program.
OVERHEAD	Specifies the program overhead, as defined by IBM.
TOTAL I/O	Specifies the amount of I/O issued by the program to that device.

In addition, grand totals for DURATION TIME, IDLE TIME, CPU TIME, OVERHEAD, and TOTAL I/O are listed at the end of the report.

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Example

The following is an example of the TSIDTAC Date Time Activity report.

```
                                        J O B   A C C O U N T I N G   S Y S T E M                    TSIDTAC= 6.01.00
C.P.U. NO. 111111      RUN DATE 12/04/1997     *  D A T E  T I M E  A C T I V I T Y  *          TIME 13.20.14          PAGE    1
   RUN         JOB      PHASE      PART      START       END       DURATION        IDLE         CPU          OVER             TOTAL
   DATE        NAME     NAME       ID        TIME        TIME        TIME          TIME         TIME         HEAD              I/O

12/02/1997  BGINIT      IESWAIT     BG     09.29.40    09.30.10    00.00.30      00.00.00     00.00.3      00.00.2            238
12/02/1997  DUMMY                   BG     09.30.15    09.30.17    00.00.02      00.00.05     00.00.1      00.00.1             44
12/02/1997  VERIFYJ1    VERIFYJO    BG     09.56.19    09.56.39    00.00.20      00.26.02     00.00.7      00.00.5            707
12/02/1997  VERIFYJ1    VERIFYJO    BG     09.57.47    09.58.05    00.00.18      00.01.08     00.00.7      00.00.5            718
12/02/1997  VERIFYJ1    VERIFYJO    BG     10.01.52    10.02.16    00.00.24      00.03.47     00.00.7      00.00.5            637
12/02/1997  VERIFYJ1    VERIFYJO    BG     10.03.40    10.04.05    00.00.25      00.01.24     00.00.7      00.00.5            637
12/02/1997  VERIFYJ1    JCOPY       BG     10.08.53    10.09.02    00.00.09      00.04.48     00.00.7      00.00.3            373
12/02/1997  VERIFYJ1    VERIFYJI    BG     10.09.02    10.09.19    00.00.17      00.00.00     00.00.6      00.00.5            613
12/02/1997  VERIFYJ1    JCOPY       BG     10.10.10    10.10.16    00.00.06      00.00.51     00.00.7      00.00.3            364
12/02/1997  VERIFYJ1    VERIFYJI    BG     10.10.17    10.10.31    00.00.14      00.00.01     00.00.6      00.00.5            613
12/02/1997  VERIFYJ1    JCOPY       BG     10.14.20    10.14.33    00.00.13      00.03.49     00.00.6      00.00.3            298
12/02/1997  VERIFYJ1    VERIFYJI    BG     10.14.33    10.14.55    00.00.22      00.00.00     00.00.5      00.00.4            570
12/02/1997  VERIFYJ1    JCOPY       BG     10.15.59    10.16.10    00.00.11      00.01.04     00.00.6      00.00.3            296
12/02/1997  VERIFYJ1    VERIFYJI    BG     10.16.11    10.16.25    00.00.14      00.00.01     00.00.5      00.00.5            568
                                                                   00.03.45*     00.43.00*    00.07.3*     00.04.7*          6676*
12/02/1997  TSIDRFS     TSIDRFS     F4     09.28.33    09.30.03    00.01.30      00.00.00     00.00.5      00.00.3            465
12/02/1997  JAY         JCOPY       F4     09.44.59    09.45.22    00.00.23      00.14.56     00.01.1      00.00.7            705
12/02/1997  JAY         VERIFYJI    F4     09.45.22    09.45.39    00.00.17      00.00.00     00.00.5      00.00.5            524
12/02/1997  JAY         JCOPY       F4     09.45.39    09.45.45    00.00.06      00.00.00     00.00.8      00.00.3            336
12/02/1997  JAY         TSIDLVT     F4     09.45.46    09.46.15    00.00.29      00.00.01     00.01.7      00.00.7            696
12/02/1997  JAY         JCOPY       F4     09.46.15    09.46.31    00.00.16      00.00.00     00.01.1      00.00.4           1448
12/02/1997  JAY         JCOPY       F4     09.46.32    09.46.38    00.00.06      00.00.01     00.00.6      00.00.3            245
12/02/1997  JAY         JCOPY       F4     09.46.38    09.46.53    00.00.15      00.00.00     00.00.6      00.00.4            357
12/02/1997  JAY         VERIFYJI    F4     09.46.54    09.47.07    00.00.13      00.00.01     00.00.5      00.00.5            521
12/02/1997  JAY         JCOPY       F4     09.47.07    09.47.14    00.00.07      00.00.00     00.00.7      00.00.3            336
12/02/1997  JAY         TSIDLVT     F4     09.47.14    09.47.33    00.00.19      00.00.00     00.01.7      00.00.7            684
12/02/1997  JAY         JCOPY       F4     09.47.33    09.47.47    00.00.14      00.00.00     00.01.1      00.00.4           1457
12/02/1997  JAY         JCOPY       F4     09.47.48    09.47.56    00.00.08      00.00.01     00.00.6      00.00.3            400
12/02/1997  JAY         JCOPY       F4     09.50.11    09.50.31    00.00.20      00.02.15     00.01.0      00.00.6            635
12/02/1997  JAY         VERIFYJI    F4     09.50.32    09.50.44    00.00.12      00.00.01     00.00.5      00.00.5            485
12/02/1997  JAY         TSIDLVT     F4     09.50.45    09.51.02    00.00.17      00.00.01     00.01.7      00.00.7            684
12/02/1997  JAY         JCOPY       F4     09.51.03    09.51.07    00.00.04      00.00.01     00.01.0      00.00.4           1446
12/02/1997  JAY         JCOPY       F4     09.51.08    09.51.11    00.00.03      00.00.01     00.00.5      00.00.3            248
12/02/1997  JAY         JCOPY       F4     09.51.11    09.51.17    00.00.06      00.00.00     00.00.6      00.00.3            284
12/02/1997  JAY         VERIFYJI    F4     09.51.17    09.51.31    00.00.14      00.00.00     00.00.5      00.00.5            487
12/02/1997  JAY         TSIDLVT     F4     09.51.32    09.51.54    00.00.22      00.00.01     00.01.7      00.00.7            695
12/02/1997  JAY         JCOPY       F4     09.51.54    09.52.06    00.00.12      00.00.00     00.01.1      00.00.4           1446
12/02/1997  JAY         JCOPY       F4     09.52.07    09.52.15    00.00.08      00.00.01     00.00.6      00.00.3            404
12/02/1997  JAY         JCOPY       F4     09.56.03    09.56.46    00.00.43      00.03.48     00.00.8      00.00.5            595
12/02/1997  JAY         JCOPY       F4     09.56.46    09.56.52    00.00.06      00.00.00     00.00.7      00.00.2            336
12/02/1997  JAY         TSIDLVT     F4     09.56.53    09.57.16    00.00.23      00.00.01     00.01.7      00.00.7            684
12/02/1997  JAY         JCOPY       F4     09.57.16    09.57.35    00.00.19      00.00.00     00.01.1      00.00.4           1457
12/02/1997  JAY         JCOPY       F4     09.57.35    09.57.43    00.00.08      00.00.00     00.00.6      00.00.3            244
12/02/1997  JAY         JCOPY       F4     09.57.44    09.58.10    00.00.26      00.00.01     00.00.4      00.00.2            251
12/02/1997  JAY         JCOPY       F4     09.58.10    09.58.15    00.00.05      00.00.00     00.00.7      00.00.2            336
12/02/1997  JAY         TSIDLVT     F4     09.58.16    09.58.34    00.00.18      00.00.01     00.01.7      00.00.8            686
12/02/1997  JAY         JCOPY       F4     09.58.35    09.58.48    00.00.13      00.00.01     00.01.1      00.00.4           1446
12/02/1997  JAY         JCOPY       F4     09.58.48    09.58.55    00.00.07      00.00.00     00.00.6      00.00.3            389
12/02/1997  JAY         JCOPY       F4     10.01.37    10.02.23    00.00.46      00.02.42     00.00.9      00.00.5            613
12/02/1997  JAY         TSIDLVT     F4     10.02.24    10.02.58    00.00.34      00.00.01     00.01.7      00.00.7            684
12/02/1997  JAY         JCOPY       F4     10.02.58    10.03.23    00.00.25      00.00.00     00.01.1      00.00.4           1457
12/02/1997  JAY         JCOPY       F4     10.03.24    10.03.34    00.00.10      00.00.01     00.00.5      00.00.3            242
12/02/1997  JAY         JCOPY       F4     10.03.34    10.04.11    00.00.37      00.00.00     00.00.4      00.00.2            269
12/02/1997  JAY         TSIDLVT     F4     10.04.11    10.04.29    00.00.18      00.00.00     00.01.7      00.00.7            684
12/02/1997  JAY         JCOPY       F4     10.04.30    10.04.42    00.00.12      00.00.01     00.01.1      00.00.4           1455
12/02/1997  JAY         JCOPY       F4     10.04.42    10.04.50    00.00.08      00.00.00     00.00.6      00.00.3            389
12/02/1997  JAY         JCOPY       F4     10.08.41    10.09.22    00.00.41      00.03.51     00.00.9      00.00.5            600
12/02/1997  JAY         JCOPY       F4     10.09.23    10.09.27    00.00.04      00.00.01     00.00.7      00.00.2            336
12/02/1997  JAY         TSIDLVT     F4     10.09.28    10.09.45    00.00.17      00.00.01     00.01.7      00.00.7            684
12/02/1997  JAY         JCOPY       F4     10.09.45    10.09.57    00.00.12      00.00.00     00.01.1      00.00.4           1446
12/02/1997  JAY         JCOPY       F4     10.09.58    10.10.06    00.00.08      00.00.01     00.00.5      00.00.3            244
12/02/1997  JAY         JCOPY       F4     10.10.06    10.10.35    00.00.29      00.00.00     00.00.4      00.00.2            256
12/02/1997  JAY         JCOPY       F4     10.10.35    10.10.37    00.00.02      00.00.00     00.00.7      00.00.2            336
12/02/1997  JAY         TSIDLVT     F4     10.10.38    10.10.48    00.00.10      00.00.01     00.01.7      00.00.7            693
12/02/1997  JAY         JCOPY       F4     10.10.48    10.10.56    00.00.08      00.00.00     00.01.1      00.00.4           1446
12/02/1997  JAY         JCOPY       F4     10.10.56    10.11.09    00.00.13      00.00.00     00.00.6      00.00.3            398
12/02/1997  JAY         JCOPY       F4     10.14.05    10.15.01    00.00.56      00.02.56     00.00.9      00.00.5            619
12/02/1997  JAY         TSIDLVT     F4     10.15.01    10.15.23    00.00.22      00.00.00     00.01.7      00.00.7            693
12/02/1997  JAY         JCOPY       F4     10.15.24    10.15.38    00.00.14      00.00.01     00.01.1      00.00.4           1446
12/02/1997  JAY         JCOPY       F4     10.15.38    10.15.51    00.00.13      00.00.00     00.00.5      00.00.3            251
12/02/1997  JAY         JCOPY       F4     10.15.52    10.16.30    00.00.38      00.00.01     00.00.4      00.00.2            275
12/02/1997  JAY         TSIDLVT     F4     10.16.30    10.16.58    00.00.28      00.00.00     00.01.9      00.00.7            693
12/02/1997  JAY         JCOPY       F4     10.16.58    10.17.15    00.00.17      00.00.00     00.01.1      00.00.4           1446
12/02/1997  JAY         JCOPY       F4     10.17.16    10.17.24    00.00.08      00.00.01     00.00.6      00.00.3            398
12/02/1997  STEPSEQ     LIBR        F4     10.21.52    10.23.15    00.01.23      00.04.28     00.10.6      00.02.8          16714
12/02/1997  STEPSEQ     JCOPY       F4     10.23.16    10.26.12    00.02.56      00.00.01     00.34.0      00.08.9          17113
12/02/1997  STEPSEQ     LIBR        F4     10.26.12    10.26.18    00.00.06      00.00.00     00.00.8      00.00.3            696
12/02/1997  STEPSEQ     JCOPY       F4     10.26.19    10.26.25    00.00.06      00.00.01     00.00.4      00.00.2            238
12/02/1997  VERIFYK     JCOPY       F4     11.09.31    11.09.40    00.00.09      00.43.06     00.00.9      00.00.5            630
```


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TSIDUTL Report

Description

TSIDUTL enables you can obtain information using various report formats. The following provides an overview of several report formats.

DSPLY ALL, Dataset Name Sequence

The TSIDUTL DSPLY ALL, SEQ=DSN report format gives you a detailed listing of all datasets in dataset name sequence. Each dataset is reported at two levels: BIM-EPIC dataset definition (EDD) and version information.

The first two lines of each dataset, beginning with the name, provide the dataset definition. The field titles are listed on these two lines.

Definitions

The following describes the fields located on the DSPLY ALL, SEQ=DSN report format.

Field	Definition
SID	Specifies the system ID.
UID	Specifies the user ID.
RET	Specifies the number of days each version is to be retained.
CYC	Specifies the number of versions (cycles) to be maintained.
RBLK	Specifies the default block size.
REC	Specifies the actual record size of the last version.
BLK	Specifies the actual block size of the last version.
VLT	Specifies the number of the vault method assigned to the dataset.
MODE	Specifies the default tape density.
REV	Specifies whether this is a revolving tape dataset.
UNLBL	Specifies whether this is a standard label tape dataset.
ENCODE=NO	Specifies whether tape encryption is activated.
OWN	Specifies the owner ID.
TPOOL	Specifies the tape pool ID.In addition to these fields, you may also see information in the body of the report: Any comment associated with the dataset appears at the end of the first line.
WORK	Specifies the dataset is a non-generation dataset. This field is located between the RET and CYC fields.

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Version Information

The field titles listed at the top of each page refer to data recorded at the version level. The fields titles listed are:

Field	Definition
SERIAL NO	Specifies the tape or disk volume serial number.
VER. NO	Specifies the relative version number of the version. There may also be four status codes listed in this column. ■ S—the version is scratched. ■ O—the version is in open status. ■ C—the version is conditionally cataloged. ■ M—the version is the master dataset of an MCAT group.
REEL/EXT	Specifies the reel or extent sequence number.
CREATION JOB NAME	Specifies the name of the job that created this version.
CREATION DATE	Specifies the date the version was created.
EXPIRE DATE	Specifies the projected expiration date of the version.
TIME	Specifies the time the version was created. Time is displayed in *hh.mm* format.
TP	Specifies the dataset tape pool.
PART	Specifies the partition in which the version was created.
PHYS. UNIT	Specifies the address of the device containing the new version.
BLOCK COUNT	Specifies the number of blocks read the last time the version was accessed.
LAST ACCESS JB NAME	Specifies the name of the last job that accessed this version.
LAST ACCESS DATE	Specifies the date the version was last accessed.
COUNT USE	Specifies the number of times the tape was opened since the version was added.
CLEAN DATE	Specifies the last clean date of the tape. If the dataset is a disk dataset, the display appears in format: EXT=starting address/allocation.actual usage.
TOTAL USE	Specifies the total number of times the tape was opened since the last cleaning.

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Field	Definition
VLT	Specifies the current vault location of the tape.
SLT	Specifies the current slot location of the tape.
TOTAL ACTIVE	Specifies the total number of active tapes on the TSIDUTL report.
TOTAL SCRATCH	Specifies the total number of scratch tapes on the TSIDUTL report.

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Example

The following is an example of the TSIDUTL DSPLY ALL,DSN report format.

```
TSIDUTL= 6.01.00                    D A T A   S E T   M A N A G E M E N T   S Y S T E M                          PAGE    2
 TIME 13.42.37           DSPLY ALL,SEQ=DSN                                                                DATE 12/04/1997
                  SERIAL VER. REEL ---CREATION-----    EXPIRE                  BLOCK ---LAST ACCESS---   USE  CLEAN   USE
                    NO    NO  /EXT JB NAME   DATE       DATE     TIME TP PT CUU  COUNT JB NAME     DATE   COUNT  DATE  TOTAL VLT SLT
ABSENTEE.TEMP     SID=   UID=    RET=   0 CYC=  2 WORK REBLK=OPT   REC= 1700 BLK=22100 DLA=   0
                  POOL=DISK02    EXT=0000060.0000030   SEC=000     ALR=0000000
                  DUMMY0    1  1 ABMSETUP 07/08/1997 07/08/1997 11.25    C3 1B7      0 ABMBURA1 07/09/1997     X=0006036/00060.00041
ACCOUNTS.PAYABLE.FILE
                  SID=   UID=    RET=   0 CYC=  1      REBLK=      REC=   80 BLK= 4160 DLA=   0
                  POOL=DISK01    EXT=0000060.0000030   SEC=000     ALR=0000000
        G=0000012 DUMMY0    1  1 GAMAPLST 07/16/1997 07/16/1997 18.17    F2 1B7      0 TSIBACK  08/02/1997     X=0005607/00060.00020
ACCTS.PAYABLE.TWO SID=   UID=    RET=   0 CYC=  1      REBLK=      REC=   80 BLK= 4160 DLA=   0
                  POOL=DISK01    EXT=0000060.0000030   SEC=000     ALR=0000000
        G=0000012 DUMMY3    1  1 GAMAPLST 07/16/1997 07/16/1997 18.17    F2 1A9      0 TSIBACK  08/02/1997     X=0030740/00060.00020
ADFIL.BKUP        SID=   UID=    RET=   3 CYC=  0      REBLK=      REC=32767 BLK=32767 DLA=   0
                  VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                SYS000
                  POOL=DISK02    EXT=0001000.0000500   SEC=000     ALR=0000000
                  001015 S     1 VSNADDFL 07/20/1997 07/23/1997 03.41    C1 610   1508 VSNADDFL 07/20/1997   2            2   0    0
ALERT.AUDIT.HIST  SID=   UID=    RET=   0 CYC=  3      REBLK=      REC=32767 BLK=32767 DLA=   0
                  VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                SYS000
                  000092    1  1 ALTAUDIT 08/04/1997 08/04/1997 06.48    C1 611    575 ALTAUDIT 08/04/1997   1           17   0    0
                  000057    2  1 ALTAUDIT 07/02/1997 07/02/1997 06.41    C1 611    570 ALTAUDIT 08/04/1997   2           14   0    0
                  000455    3  1 ALTAUDIT 06/03/1997 06/03/1997 08.11    F5 620    565 ALTAUDIT 07/02/1997   2            5   0    0
                  000298 S     1 ALTAUDIT 05/02/1997 05/02/1997 07.20    C1 620    558 ALTAUDIT 06/03/1997   2            8   0    0
ANY.FILEID.LONG.ENOUGH.SHOW.THIS.EXAMPLE
                  SID=   UID=AC  RET=   0 CYC=  0 WORK REBLK=      REC=      BLK=      DLA=   0  **** AUTO CATALOGUE ****
                  POOL=          EXT=0000000.0000001   SEC=000     ALR=0000000
ANY.FILEID.LONG.ENOUGH.TO.SHOW.THIS.EXAMPLE
                  SID=   UID=AC  RET=   0 CYC=  0 WORK REBLK=   80 REC=      BLK=      DLA=   0  **** AUTO CATALOGUE ****
                  VLT= 0 MODE=00 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=A                SYS000
ANY.OLD.FILEID    SID=   UID=AC  RET=   0 CYC=  0 WORK REBLK=      REC=      BLK=      DLA=   0  **** AUTO CATALOGUE ****
                  POOL=          EXT=0000001.0000001   SEC=000     ALR=0000000
ANY.OLD.FILEID.LONG.ENUFF.FOR.EXAMPL
                  SID=   UID=AC  RET=   0 CYC=  0 WORK REBLK=      REC=      BLK=      DLA=   0  **** AUTO CATALOGUE ****
                  POOL=          EXT=0000001.0000001   SEC=000     ALR=0000000
AR CONDENSE FILE  SID=   UID=    RET=   0 CYC=  1      REBLK=      REC=    5 BLK=  250 DLA=   0
                  POOL=DISK01    EXT=0000005.0000002   SEC=000     ALR=0000000
        G=0000132 DUMMY3    1  1 DCDCREAR 08/01/1997 08/01/1997 19.13    C1 1A9      0 TSIBACK  08/02/1997     X=0010300/00005.00002
AR.PROD.LGX.AR192BKP.GVEXPORT.AR192RST
                  SID=TP UID=    RET=   2 CYC=  2      REBLK=      REC=      BLK=32767 DLA=   0  LOGIC IDCAMS BACKUP/RESTORE OF
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                 SYS000
                  011609    1  1 AR835    08/07/1997 08/11/1997 16.53    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                  011918    2  1 AR835    08/06/1997 08/10/1997 16.31    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                  012056    3  1 AR835    08/04/1997 08/08/1997 16.28    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.LGX.EL588BKP.GVEXPORT.EL588RST
                  SID=TP UID=    RET=   2 CYC=  2      REBLK=      REC=      BLK=32767 DLA=   0  LOGIC IDCAMS BACKUP/RESTORE OF
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                 SYS000
                  011615    1  1 EL588    08/07/1997 08/11/1997 17.31    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                  011932    2  1 EL588    08/06/1997 08/10/1997 17.41    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                  012087    3  1 EL588    08/04/1997 08/08/1997 17.25    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.NCL.CASHRCT.CASHRBKP.DAILY
                  SID=TP UID=    RET=   2 CYC=  3      REBLK=      REC=   80 BLK=   80 DLA=   0  CASH RECEIPTS DAILY BACKUP
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                 SYS000
                  011610    1  1 AR835    08/07/1997 08/11/1997 16.52    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                  011904    2  1 AR835    08/06/1997 08/10/1997 16.31    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                  012057    3  1 AR835    08/04/1997 08/08/1997 16.27    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
-------------------------------------------------------------------------------------------------------------------------------
TSIDUTL= 6.01.00                    D A T A   S E T   M A N A G E M E N T   S Y S T E M                          PAGE   95
 TIME 13.42.37           DSPLY ALL,SEQ=DSN                                                                DATE 12/04/1997
                  SERIAL VER. REEL ---CREATION-----    EXPIRE                  BLOCK ---LAST ACCESS---   USE  CLEAN   USE
                    NO    NO  /EXT JB NAME   DATE       DATE     TIME TP PT CUU  COUNT JB NAME     DATE   COUNT  DATE  TOTAL VLT SLT
VSAM.TEC.FILES    SID=   UID=    RET=   2 CYC=  0      REBLK=      REC=   80 BLK=  800 DLA=   0
                  POOL=DISK01    EXT=0000005.0000002   SEC=000     ALR=0000000
        G=0000003 DUMMY0    1  1 VSAMTEC  08/03/1997 08/05/1997 03.43    C2 1B7      0 VSAMTEC  08/03/1997     X=0005799/00005.00002
VSAM.110A.FILES   SID=   UID=    RET=   2 CYC=  0      REBLK=      REC=   80 BLK=  800 DLA=   0
                  POOL=DISK01    EXT=0000005.0000002   SEC=000     ALR=0000000
        G=0000005 DUMMY6    1  1 VSAM100A 08/03/1997 08/05/1997 03.05    C2 1B1      0 VSAM100A 08/03/1997     X=0028974/00005.00002
VSAM.111A.FILES   SID=   UID=    RET=   2 CYC=  0      REBLK=      REC=   80 BLK=  800 DLA=   0
                  POOL=DISK01    EXT=0000005.0000002   SEC=000     ALR=0000000
        G=0000005 DUMMY1    1  1 VSAM101A 08/03/1997 08/05/1997 03.18    C2 1B9      0 VSAM101A 08/03/1997     X=0021911/00005.00002
VSAM.112A.FILES   SID=   UID=    RET=   2 CYC=  0      REBLK=      REC=   80 BLK=  800 DLA=   0
                  POOL=DISK01    EXT=0000005.0000002   SEC=000     ALR=0000000
        G=0000005 DUMMY3    1  1 VSAM102A 08/03/1997 08/05/1997 03.33    C2 1A9      0 VSAM102A 08/03/1997     X=0010302/00005.00002
WATRMTR.BACKUP    SID=   UID=    RET=   0 CYC=  1      REBLK=OPT   REC=  181 BLK=16290 DLA=   0
                  VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                SYS000
                  000034    1  1 MWMBAKUP 07/11/1997 07/11/1997 08.07    C1 610    849 MWMRSTOR 07/11/1997   2           22   0    0
WWSTATS.BKUP.TAPE SID=   UID=    RET=  30 CYC=  0      REBLK=MAX   REC=32767 BLK=32767 DLA=   0
                  VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                SYS000
                  000067    1  1 WWMSTBKP 07/10/1997 08/09/1997 09.20    C2 610     12 WWMSTBKP 07/10/1997   1            9   0    0
                  000635 S     1 WWMSTBKP 06/09/1997 07/09/1997 11.02    C2 610     12 WWMSTBKP 06/09/1997   1            1   0    0
        TOTAL ACTIVE TAPES    2106  TOTAL SCRATCH TAPES     284
```


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Tape Dataset Summary Report

Description

The following report summarizes information about tape datasets. Each tape volume serial number (volser) is listed along with data for that version. Dataset definitions are not listed. The first field listed is the version dataset name. Other fields contained in this report are described later in this document.

Example

The following is an example of a Tape Dataset Summary report.

```
SIDUTL= 6.01.00                    D A T A   S E T   M A N A G E M E N T   S Y S T E M                              PAGE   11
TIME 13.42.37          DSPLY ALL,SEQ=SER                                                                  DATE 12/04/1997
                SERIAL VER. REEL ---CREATION-----    EXPIRE                  BLOCK ---LAST ACCESS---   USE  CLEAN   USE
                  NO    NO  /EXT JB NAME   DATE      DATE     TIME TP PT CUU  COUNT JB NAME     DATE   COUNT  DATE  TOTAL VLT SLT
.MD.HRM.SAM.RPTREC
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.46    BG 1AB      0 EPICONLD 10/18/1996 X=0019644/00200.00003
.NAME CI BACKUP  DUMMY8    1  1 DCDMAINT 10/02/1996 10/02/1996 11.59    BG 1AB      0 TSIBACK  08/01/1997 X=0019924/00024.00002
.HPL.WORK.FILE   DUMMY8    1  1 HPLVSAMP 10/11/1996 10/11/1996 15.58    BG 1AB      0 EPICONLD 10/18/1996 X=0019720/00100.00002
.MD.HRM.SAM.SUP050T
                DUMMY8    1  1 PAYROL10 02/21/1996 02/21/1996 15.17    BG 1AB      0 EPICONLD 10/18/1996 X=0019609/00015.00002
.OLDNOVER.FILE   DUMMY8    1  1 OCWOPNBL 04/05/1995 04/05/1995 16.00    BG 1AB      0 EPICONLD 10/18/1996 X=0019605/00012.00002
.PROG.WORK.FILE3 DUMMY8 O     1 HRBDESIG 08/04/1997 08/05/1997 08.06    C1 1AB      0 HRBDESIG 08/04/1997 X=0020793/00050.00050
.MD.HRM.SAM.PERWTRN
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.30    BG 1AB      0 TSIDONL  11/07/1996 X=0019734/00050.00008
.PROG.WORK.FILE3 DUMMY8 O     1 HRBDESIG 08/04/1997 08/05/1997 09.07    C2 1AB      0 HRBDESIG 08/04/1997 X=0020457/00050.00050
.MD.HRM.SAM.PER171T
                DUMMY8    1  1 PAYROL10 03/28/1996 03/28/1996 11.22    BG 1AB      0 EPICONLD 10/18/1996 X=0019611/00015.00002
.MD.HRM.PAY070.PUNCH10
                DUMMY8    1  1 PAMSRT11 07/09/1997 07/09/1997 10.28    C2 1AB      0 PAMSRT11 07/09/1997 X=0023535/00015.00002
.PROJECT.FL      DUMMY8    1  1 DCXHILOW 01/24/1996 01/24/1996 10.24    BG 1AB      0 EPICONLD 10/18/1996 X=0019642/00100.00002
.MD.HRM.SAM.PERWORK
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.31    BG 1AB      0 EPICONLD 10/18/1996 X=0019613/00015.00002
.ELMET.INVENTORY.FILE
                DUMMY8    1  1 KLLEPIC1 06/02/1994 06/02/1994 10.39    BG 1AB      0 TSIBACK  08/01/1997 X=0020113/00020.00004
.JOB.HIST.ACCUM  DUMMY8    2  1 TSIJOBAT 07/31/1997 07/31/1997 06.11    F2 1AB      0 TSIJOBAT 08/01/1997 X=0025648/00100.00100
.MD.HRM.SAM.PERTRAN
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.31    BG 1AB      0 EPICONLD 10/18/1996 X=0019615/00015.00002
.JOB.HIST.ACCUM  DUMMY8    2  3 TSIJOBAT 07/31/1997 07/31/1997 06.11    F2 1AB      0 TSIJOBAT 08/01/1997 X=0023537/00025.00017
.TMON.DAILY.D    DUMMY8    1  7 CICDTMON 08/04/1997 08/04/1997 13.36    F2 1AB      0 CICDTMON 08/04/1997 X=0024304/00015.00015
.TMON.DAILY.D    DUMMY8    1  6 CICDTMON 08/04/1997 08/04/1997 13.36    F2 1AB      0 CICDTMON 08/04/1997 X=0024289/00015.00015
.MD.HRM.SAM.CHKNBRS
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.34    BG 1AB      0 TSIDONL  11/07/1996 X=0019635/00005.00002
.TMON.DAILY.D    DUMMY8    1  3 CICDTMON 08/04/1997 08/04/1997 13.35    F2 1AB      0 CICDTMON 08/04/1997 X=0020518/00015.00015
.MD.HRM.SAM.CNTLFIL
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.28    BG 1AB      0 EPICONLD 10/18/1996 X=0019682/00005.00002
.FINLODE.562     DUMMY8    1  1 MFX22990 07/07/1997 07/07/1997 12.06    C1 1AB      0 TSIBACK  08/01/1997 X=0023646/00012.00012
.MD.HRM.SAM.CHKOUT
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.45    BG 1AB      0 EPICONLD 10/18/1996 X=0019684/00200.00003
.TMON.DAILY.D    DUMMY8    1  4 CICDTMON 08/04/1997 08/04/1997 13.35    F2 1AB      0 CICDTMON 08/04/1997 X=0020762/00015.00015
.TMON.DAILY.D    DUMMY8    1  1 CICDTMON 08/04/1997 08/04/1997 13.34    F2 1AB      0 CICDTMON 08/04/1997 X=0024565/00030.00030
.MD.HRM.SAM.DATACTL
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.28    BG 1AB      0 TSIDONL  11/07/1996 X=0019633/00005.00002
.TMON.DAILY.C    DUMMY8 O     1 CICCTMON 08/04/1997 08/04/1997 11.17    C2 1AB      0 CICCTMON 08/04/1997 X=0023675/00030.00030
.TMON.DAILY.B    DUMMY8 O     2 CICBTMON 08/04/1997 08/04/1997 11.08    F5 1AB      0 CICBTMON 08/04/1997 X=0020256/00015.00015
.MD.HRM.SAM.ERROR10
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.28    BG 1AB      0 EPICONLD 10/18/1996 X=0019680/00050.00002
.FINAL ENTREX    DUMMY8    1  1 DCDMAINT 10/02/1996 10/02/1996 12.00    BG 1AB      0 TSIBACK  08/01/1997 X=0020103/00006.00002
.MD.HRM.SAM.ERROR20
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.33    BG 1AB      0 EPICONLD 10/18/1996 X=0019678/00005.00002
.TAX.CODE.FILE   DUMMY8    1  1 DCXCSLST 06/20/1997 06/20/1997 07.47    C1 1AB      0 TSIBACK  08/01/1997 X=0020232/00006.00002
.MD.HRM.SAM.ONLCHGS
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.28    BG 1AB      0 EPICONLD 10/18/1996 X=0019622/00005.00003
.MD.HRM.SAM.MNTRPCH
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.33    BG 1AB      0 EPICONLD 10/18/1996 X=0019647/00015.00002
.MD.HRM.SAM.CHGFILE
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.32    BG 1AB      0 EPICONLD 10/18/1996 X=0019687/00005.00003
.TMON.DAILY.A    DUMMY8 O     1 CICATMON 08/04/1997 08/04/1997 13.42    F2 1AB      0 CICATMON 08/04/1997 X=0023387/00030.00030
.IND.AUDIT.FILE  DUMMY8    1  1 DCXBILLS 07/18/1995 07/18/1995 13.26    BG 1AB      0 TSIBACK  08/01/1997 X=0019926/00005.00003
.MD.HRM.SAM.MONITOR
                DUMMY8    1  2 PAYROL10 05/07/1996 05/07/1996 10.32    BG 1AB      0 TSIDONL  11/07/1996 X=0019627/00007.00006
.TEMP HP HISTORY DUMMY8    1  1 EPICONLD 10/18/1996 10/18/1996 10.58    BG 1AB      0 TSIBACK  08/01/1997 X=0019800/00006.00004
.MD.HRM.SAM.MONITOR
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.32    BG 1AB      0 TSIDONL  11/07/1996 X=0019704/00015.00015
.MD.HRM.SAM.INTRANS
                DUMMY8    1  1 PAYROL10 05/07/1996 05/07/1996 10.29    BG 1AB      0 TSIDONL  11/07/1996 X=0020440/00150.00007
.MD.HRM.PAY070.PUNCH6
                DUMMY8    1  1 PSMCOPY  05/19/1997 05/19/1997 10.50    C1 1AB      0 HRBEMPRF 05/22/1997 X=0020225/00015.00007
.JOB.HIST.ACCUM  DUMMY8    1  1 TSIJOBAT 08/01/1997 08/01/1997 06.11    F2 1AB      0 TSIBACK  08/01/1997 X=0025923/00100.00100
.MD.HRM.SAM.LABORT
                DUMMY8    1  1 PAYROL10 03/11/1996 03/11/1996 11.21    BG 1AB      0 EPICONLD 10/18/1996 X=0019649/00030.00029
```


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Expiration Date, Creation Date, and Creation Job Sequences

Each version is listed with all version data. Dataset definitions are not listed. The first field listed is the version dataset name. See “DSPLY ALL, Dataset Name Sequence” for an explanation of the other fields contained in the TSIDUTL report.

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Display Active Report

Description

The TSIDUTL Display Active report details the active versions of each dataset. See “DSPLY ALL, Dataset Name Sequence” for an explanation of the fields contained in the TSIDUTL report.

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DSPLY NEW Report

Description

The TSIDUTL DSPLY NEW report lists all datasets created since the last time the report was created. See “DSPLY ALL, Dataset Name Sequence” for an explanation of the fields contained in the TSIDUTL report.

Example

The following is an example of the TSIDUTL DSPLY NEW report.

```
IDUTL= 6.1                          D A T A   S E T   M A N A G E M E N T   S Y S T E M                                PAGE    1
IME  6.45.36           DSPLY NEW,SEQ=DSN                                                                  DATE 12/30/1997
               SERIAL VER. REEL ---CREATION-----    EXPIRE                  BLOCK ---LAST ACCESS---   USE  CLEAN   USE
                 NO    NO  /EXT JB NAME   DATE       DATE     TIME TP PT CUU  COUNT JB NAME     DATE   COUNT  DATE  TOTAL VLT SLT

SH.BUD1.BKUP    SID=   UID=    RET=   0 CYC=  1      REBLK=      REC= 8244 BLK= 8244 DLA=   0
                VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                 SYS000
                000149    1  1 BUMCBKUP 07/07/1997 07/07/1997 09.42    C4 611   1002 BUMCBKUP 07/07/1997   1           14   0    0
                000497 S     1 BUMCBKUP 06/04/1997 06/04/1997 14.18    C2 610    994 BUMCBKUP 06/04/1997   1            4   0    0

SH.BUD2.BKUP    SID=   UID=    RET=   0 CYC=  1      REBLK=      REC= 8244 BLK= 8244 DLA=   0  NSU FILE OF CASH.BUD1.BKUP
                VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                 SYS000
     F=0000002 000149    1  1 BUMCBKUP 07/07/1997 07/07/1997 09.50    C4 611     26 BUMCBKUP 07/07/1997   1            1   0    0

PROD.LGX.EL512BKP.GVEXPORT.EL512RST
                SID=TP UID=    RET=   1 CYC=  1      REBLK=      REC=      BLK=32767 DLA=   0  LOGIC IDCAMS BACKUP/RESTORE OF
                VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                011625    1  1 IN512DNH 08/07/1997 08/11/1997 17.37    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                011967    2  1 IN511MID 08/06/1997 08/10/1997 18.19    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                011953    3  1 IN511VNB 08/06/1997 08/10/1997 18.14    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                011938    4  1 IN512DNH 08/06/1997 08/10/1997 17.47    F3 180      0 TSIDYN   08/18/1997   0            0   0
                011850    5  1 IN512DNH 08/05/1997 08/09/1997 17.30    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                011851    6  1 IN511MID 08/05/1997 08/09/1997 17.24    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                012128    7  1 IN511HEL 08/04/1997 08/08/1997 17.58    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                012113    8  1 IN512DNH 08/04/1997 08/08/1997 17.52    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                012109    9  1 IN511FBS 08/04/1997 08/08/1997 17.46    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                012095   10  1 IN511MTH 08/04/1997 08/08/1997 17.39    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
                012094   11  1 IN511VNB 08/04/1997 08/08/1997 17.33    F3 180      0 TSIDYN   08/18/1997   0            0   0    0

PROD.NCL.EL511WA.BKS511.ENTRY
                SID=TP UID=    RET=  21 CYC=  1      REBLK=      REC=   80 BLK=32000 DLA=   0  LOGIC PROD INPUT DATA TO EL512
                VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                012107    1  1 IN511FBS 08/04/1997 08/25/1997 17.49    F3 180      0 TSIDYN   08/18/1997   0            0   0

PROD.NCL.EL511WA.CI003CNV.ENTRY
                SID=TP UID=    RET=   1 CYC=  1      REBLK=      REC=   80 BLK=32000 DLA=   0  LOGIC JOURNAL FILE
                VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                011963    1  1 IN511MID 08/06/1997 08/10/1997 18.22    F3 181      0 TSIDYN   08/18/1997   0            0   0    0

PROD.NCL.EL511WA.CI005CNV.ENTRY
                SID=TP UID=    RET=  21 CYC=  1      REBLK=      REC=   80 BLK=32000 DLA=   0  LOGIC JOURNAL PROD FILE
                VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                012127    1  1 IN511HEL 08/04/1997 08/25/1997 18.00    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
```


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DSPLY PULL Report

Description

The TSIDUTL DSPLY PULL report lists only the most current version for each dataset. See “DSPLY ALL, Dataset Name Sequence” for an explanation of the fields contained in the TSIDUTL report.

Example

The following is an example of the TSIDUTL DSPLY PULL report.

```
TSIDUTL= 6.01.00                      D A T A   S E T   M A N A G E M E N T   S Y S T E M                          PAGE    1
 TIME 13.42.37           DSPLY PULL,SEQ=DSN                                                                  DATE 12/04/1997
                  SERIAL VER. REEL ---CREATION-----    EXPIRE                    BLOCK ---LAST ACCESS---   USE  CLEAN   USE
                    NO    NO  /EXT JB NAME   DATE       DATE     TIME TP PT CUU  COUNT JB NAME     DATE   COUNT  DATE  TOTAL VLT SLT
A-R TAPE          SID=   UID=    RET=   0 CYC=  2      REBLK=MAX   REC=   25 BLK=32750 DLA=   0
                  VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                 SYS000
                  POOL=DISK01    EXT=0000250.0000050   SEC=000     ALR=0000000
                  001249    1  1 OCNARBAK 06/30/1997 06/30/1997 20.11    F5 620    342 OCYAUDAR 07/01/1997   2            2   0 0
ABSENTEE.TEMP     SID=   UID=    RET=   0 CYC=  2 WORK REBLK=OPT   REC= 1700 BLK=22100 DLA=   0
                  POOL=DISK02    EXT=0000060.0000030   SEC=000     ALR=0000000
                  DUMMY0    1  1 ABMSETUP 07/08/1997 07/08/1997 11.25    C3 1B7      0 ABMBURA1 07/09/1997  X=0006036/00060.00041
ACCOUNTS.PAYABLE.FILE
                  SID=   UID=    RET=   0 CYC=  1      REBLK=      REC=   80 BLK= 4160 DLA=   0
                  POOL=DISK01    EXT=0000060.0000030   SEC=000     ALR=0000000
        G=0000012 DUMMY0    1  1 GAMAPLST 07/16/1997 07/16/1997 18.17    F2 1B7      0 TSIBACK  08/02/1997 X=0005607/00060.00020
ACCTS.PAYABLE.TWO SID=   UID=    RET=   0 CYC=  1      REBLK=      REC=   80 BLK= 4160 DLA=   0
                  POOL=DISK01    EXT=0000060.0000030   SEC=000     ALR=0000000
        G=0000012 DUMMY3    1  1 GAMAPLST 07/16/1997 07/16/1997 18.17    F2 1A9      0 TSIBACK  08/02/1997 X=0030740/00060.00020
ALERT.AUDIT.HIST  SID=   UID=    RET=   0 CYC=  3      REBLK=      REC=32767 BLK=32767 DLA=   0
                  VLT= 0 MODE=F8 REV=NO   UNLBL=NO     ENCODE=NO   OWN=00    TPOOL=B                 SYS000
                  000092    1  1 ALTAUDIT 08/04/1997 08/04/1997 06.48    C1 611    575 ALTAUDIT 08/04/1997   1           17   0 0
AR CONDENSE FILE  SID=   UID=    RET=   0 CYC=  1      REBLK=      REC=    5 BLK=  250 DLA=   0
                  POOL=DISK01    EXT=0000005.0000002   SEC=000     ALR=0000000
        G=0000132 DUMMY3    1  1 DCDCREAR 08/01/1997 08/01/1997 19.13    C1 1A9      0 TSIBACK  08/02/1997 X=0010300/00005.00002
AR.PROD.LGX.AR192BKP.GVEXPORT.AR192RST
                  SID=TP UID=    RET=   2 CYC=  2      REBLK=      REC=      BLK=32767 DLA=   0  LOGIC IDCAMS BACKUP/RESTORE OF
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  011609    1  1 AR835    08/07/1997 08/11/1997 16.53    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.LGX.EL588BKP.GVEXPORT.EL588RST
                  SID=TP UID=    RET=   2 CYC=  2      REBLK=      REC=      BLK=32767 DLA=   0  LOGIC IDCAMS BACKUP/RESTORE OF
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  011615    1  1 EL588    08/07/1997 08/11/1997 17.31    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.NCL.CASHRCT.CASHRBKP.DAILY
                  SID=TP UID=    RET=   2 CYC=  3      REBLK=      REC=   80 BLK=   80 DLA=   0  CASH RECEIPTS DAILY BACKUP
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  011610    1  1 AR835    08/07/1997 08/11/1997 16.52    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.NCL.ELME3BKP.GVEXPORT.ELME3RST
                  SID=TP UID=    RET=  90 CYC=  3      REBLK=      REC=      BLK=32767 DLA=   0  LOGIC BACK-UP OFFLINE FILES UP
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  010523    1  1 ELME3AR  07/19/1997 10/17/1997 18.05    BG 180      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE
                  SID=TP UID=    RET=PERM CYC= 30      REBLK=      REC=32763 BLK=32767 DLA=   0  LOGIC BACK-UP OFFLINE FILES CR
                  VLT= 1 MODE=   REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  090783    1  1 1996     01/26/1997 06/12/2024 06.52    F5 283      0 TSIDYN   08/18/1997   0            0   1    0
AR.PROD.NCL.ERBFWD.EL863.MONTHEND
                  SID=TP UID=    RET=  35 CYC=  1 WORK REBLK=      REC= 1000 BLK=23000 DLA=   0
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  010405    1  1 ELME3AR  07/19/1997 08/23/1997 16.58    BG 181      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.NCL.EREXTR.EL860.MONTHEND
                  SID=TP UID=    RET=  90 CYC=  3      REBLK=      REC=  629 BLK=23273 DLA=   0  LOGIC EL860 ERRORS
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  012145    1  1 ELME1GET 07/18/1997 10/16/1997 18.20    F3 180      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.NCL.EREXTR.EL860.OFFSITE
                  SID=TP UID=    RET=PERM CYC= 30      REBLK=      REC=  629 BLK=23273 DLA=   0  LOGIC EL860 ERRORS DECEMBER
                  VLT= 1 MODE=   REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  090785    1  1 1996     01/26/1997 06/12/2024 07.05    F5 283      0 TSIDYN   08/18/1997   0            0   1    0
AR.PROD.NCL.ERPNDB.EL860.MONTHEND
                  SID=TP UID=    RET=  90 CYC=  3      REBLK=      REC=  585 BLK=23400 DLA=   0  LOGIC EL860 PENDING BUSINESS
                  VLT= 0 MODE=08 REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  012149    1  1 ELME1GET 07/18/1997 10/16/1997 18.21    F3 280      0 TSIDYN   08/18/1997   0            0   0    0
AR.PROD.NCL.ERPNDB.EL860.OFFSITE
                  SID=TP UID=    RET=PERM CYC= 30      REBLK=      REC=  585 BLK=23400 DLA=   0  LOGIC PENDING BUSINESS DECEMBE
                  VLT= 1 MODE=   REV=NO   UNLBL=NO     ENCODE=NO   OWN=      TPOOL=                  SYS000
                  090786    1  1 1996     01/26/1997 06/12/2024 07.21    F5 283      0 TSIDYN   08/18/1997   0            0   1    0
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DSPLY VAULT Report

Description

The TSIDUTL DSPLY VAULT report lists the vault and slot locations of all tapes located in offsite vaults. See “DSPLY ALL, Dataset Name Sequence” for an explanation of the fields contained in the TSIDUTL report.

Example

The following is an example of the TSIDUTL DSPLY VAULT report.

```
SIDUTL= 6.01.00                      D A T A   S E T   M A N A G E M E N T   S Y S T E M                          PAGE    1
IME 13.42.37          DSPLY VAULT                                                                  DATE 12/04/1997
              SERIAL VER. REEL ---CREATION-----    EXPIRE                    BLOCK ---LAST ACCESS---   USE  CLEAN   USE
                NO    NO  /EXT JB NAME   DATE       DATE     TIME TP PT CUU  COUNT JB NAME     DATE   COUNT  DATE  TOTAL VLT SLT
.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE
              090783    1  1 1996     01/26/1997 06/12/2024 06.52    F5 283      0 TSIDYN   08/18/1997   0           0   1    0
.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE
              090651    2  1 1995     01/20/1996 06/06/2023 11.08    BG 283      0 TSIDYN   08/18/1997   0           0   2    0
.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE
              090529    3  1 COPY1994 01/19/1995 06/06/2022 13.52    BG 282      0 TSIDYN   08/18/1997   0           0   3    0
.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE
              090424    4  1 COPY1993 01/29/1994 06/16/2021 12.18    F3 781      0 TSIDYN   08/18/1997   0           0   4    0
.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE
              090217    5  1 COPY1992 01/29/1993 06/16/2020 16.41    BG 783      0 TSIDYN   08/18/1997   0           0   5    0
.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE
              090218    5  2 COPY1992 01/29/1993 06/16/2020 00.00    BG 783      0 TSIDYN   08/18/1997   0           0   5    0
.PROD.NCL.EREXTR.EL860.OFFSITE
              090785    1  1 1996     01/26/1997 06/12/2024 07.05    F5 283      0 TSIDYN   08/18/1997   0           0   1    0
.PROD.NCL.EREXTR.EL860.OFFSITE
              090653    2  1 1995     01/20/1996 06/06/2023 11.23    F5 283      0 TSIDYN   08/18/1997   0           0   2    0
.PROD.NCL.EREXTR.EL860.OFFSITE
              090531    3  1 COPY1994 01/19/1995 06/06/2022 14.04    BG 282      0 TSIDYN   08/18/1997   0           0   3    0
.PROD.NCL.EREXTR.EL860.OFFSITE
              090425    4  1 COPY1993 01/29/1994 06/16/2021 12.20    BG 783      0 TSIDYN   08/18/1997   0           0   4    0
.PROD.NCL.EREXTR.EL860.OFFSITE
              090209    5  1 COPY1992 01/29/1993 06/16/2020 16.16    BG 783      0 TSIDYN   08/18/1997   0           0   5    0
.PROD.NCL.ERPNDB.EL860.OFFSITE
              090786    1  1 1996     01/26/1997 06/12/2024 07.21    F5 283      0 TSIDYN   08/18/1997   0           0   1    0
.PROD.NCL.ERPNDB.EL860.OFFSITE
              090654    2  1 1995     01/20/1996 06/06/2023 11.25    F5 283      0 TSIDYN   08/18/1997   0           0   2    0
.PROD.NCL.ERPNDB.EL860.OFFSITE
              090532    3  1 COPY1994 01/19/1995 06/06/2022 14.07    BG 282      0 TSIDYN   08/18/1997   0           0   3    0
.PROD.NCL.ERPNDB.EL860.OFFSITE
              090426    4  1 COPY1993 01/29/1994 06/16/2021 12.23    BG 783      0 TSIDYN   08/18/1997   0           0   4    0
.PROD.NCL.ERPNDB.EL860.OFFSITE
              090208    5  1 COPY1992 01/29/1993 06/16/2020 16.14    BG 783      0 TSIDYN   08/18/1997   0           0   5    0
.PROD.NCL.ERPYAJ.EL860.OFFSITE
              090880    1  1 1996     01/28/1997 06/14/2024 14.59    F5 283      0 TSIDYN   08/18/1997   0           0   1    0
.PROD.NCL.ERPYAJ.EL860.OFFSITE
              090784    2  1 1996     01/26/1997 06/12/2024 07.02    F5 283      0 TSIDYN   08/18/1997   0           0   2    0
.PROD.NCL.ERPYAJ.EL860.OFFSITE
              090652    3  1 1995     01/20/1996 06/06/2023 11.12    F5 283      0 TSIDYN   08/18/1997   0           0   3    0
.PROD.NCL.ERPYAJ.EL860.OFFSITE
              090530    4  1 COPY1994 01/19/1995 06/06/2022 14.01    BG 282      0 TSIDYN   08/18/1997   0           0   4    0
.PROD.NCL.ERPYAJ.EL860.OFFSITE
              090423    5  1 COPY1993 01/29/1994 06/16/2021 12.07    BG 783      0 TSIDYN   08/18/1997   0           0   5    0
DGET.SQLBKUP  001056    1  1 BUMBAKUP 07/22/1997 07/22/1997 11.48    F6 610    169 BUMBAKUP 07/22/1997   1           1   1    1
DGET.SQLBKUP  000252    2  1 BUMBAKUP 06/23/1997 06/23/1997 14.32    C1 610    169 BUMBAKUP 06/23/1997   1          10   2    0
DGET.SQLBKUP  000432    3  1 BUMBAKUP 05/21/1997 05/21/1997 13.27    F5 610    169 BUMBAKUP 05/21/1997   1           3   3    0
.PROD.LGX.ELEXTR.CLEXTBKP.CLDLY
              011637    1  1 CLDLY    08/07/1997 08/14/1997 18.44    F3 180      0 TSIDYN   08/18/1997   0           0   5    0
.PROD.LGX.ELEXTR.CLEXTBKP.CLDLY
              011974    2  1 CLDLY    08/06/1997 08/13/1997 19.25    F3 181      0 TSIDYN   08/18/1997   0           0   4    0
.PROD.LGX.ELEXTR.CLEXTBKP.CLDLY
              012136    3  1 CLDLY    08/04/1997 08/11/1997 19.10    F3 180      0 TSIDYN   08/18/1997   0           0   3    0
.PROD.LGX.ELEXTR.CLEXTBKP.CLDLY
              010787    4  1 CLDLY    07/31/1997 08/07/1997 19.39    F3 180      0 TSIDYN   08/18/1997   0           0   2    0
.PROD.LGX.ELEXTR.CLEXTBKP.CLDLY
              011397    1  3 CLEOM    08/01/1997 09/15/1997 00.00    F3 180      0 TSIDYN   08/18/1997   0           0   1    0
.PROD.LGX.ELHAF.CLHAFCPY.MONTHEND
              011865    2  1 CLEOM    07/01/1997 08/15/1997 21.18    F3 180      0 TSIDYN   08/18/1997   0           0   2    0
.PROD.LGX.ELHAF.CLHAFCPY.MONTHEND
              090773    1  5 1996     01/03/1997 05/20/2024 00.00    F5 283      0 TSIDYN   08/18/1997   0           0   1    0
.PROD.LGX.EL000BKP.CLEOMREN.OFFSITE
              090774    1  6 1996     01/03/1997 05/20/2024 00.00    F5 283      0 TSIDYN   08/18/1997   0           0   1    0
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DSPLY SCRATCH Report

Description

The TSIDUTL DSPLY SCRATCH report lists scratch tapes along with data specific to the version contained on the scratch tape. See “DSPLY ALL, Dataset Name Sequence” for an explanation of the fields contained in the TSIDUTL report.

Example

The following is an example of the TSIDUTL DSPLY SCRATCH report.

```
 TSIDUTL= 6.01.00                    D A T A   S E T   M A N A G E M E N T   S Y S T E M                                PAGE    1
 TIME 13.42.37          DSPLY SCRATCH                                                                    DATE 12/04/1997
                 SERIAL VER. REEL ---CREATION-----    EXPIRE                          BLOCK ---LAST ACCESS---   USE  CLEAN   USE
                   NO    NO  /EXT JB NAME   DATE       DATE     TIME TP PT CUU  COUNT JB NAME     DATE   COUNT  DATE  TOTAL VLT SLT
ADFIL.BKUP       001015 S     1 VSNADDFL 07/20/1997 07/23/1997 03.41    C1 610   1508 VSNADDFL 07/20/1997   2            2   0   0
ALERT.AUDIT.HIST 000298 S     1 ALTAUDIT 05/02/1997 05/02/1997 07.20    C1 620    558 ALTAUDIT 06/03/1997   2            8   0   0
BUD.ACASH.BKUP   000499 S     1 BUMCBADJ 06/04/1997 06/04/1997 15.08    C1 610    641 BUMCBADJ 06/04/1997   1            3   0   0
BUDGET.SQLBKUP   000360 S     1 BUMBAKUP 04/30/1997 04/30/1997 07.15    C1 620    169 BUMBAKUP 04/30/1997   1            3   0   0
CASH.BUD1.BKUP   000497 S     1 BUMCBKUP 06/04/1997 06/04/1997 14.18    C2 610    994 BUMCBKUP 06/04/1997   1            4   0   0
CONHIST.BACKUP   001014 S     1 VSNCNHST 07/20/1997 07/30/1997 03.33    C2 610   2077 VSNCNHST 07/20/1997   2            2   0   0
CONSTR.BACKUP    001054 S     1 CAMMASBK 07/22/1997 07/22/1997 11.42    C2 610      0 CAMMASBK 07/22/1997   1            1   0   0
CONSTR.JOURNAL.BK 000352 S    1 CONSTR   04/30/1997 04/30/1997 07.14    C4 611    214 CONSTR   04/30/1997   1            4   0   0
ELECTRIC.METER.BK 000429 S    1 MENEMBAK 06/03/1997 06/13/1997 06.47    C1 611  11523 MENEMRST 06/03/1997   2            5   0   0
EPIC.DBA.WORK1   000724 S     1 BKUPLIBR 06/17/1997 06/24/1997 08.06    BG 611      0 BKUPLIBR 06/17/1997   1            2   0   0
EPIC.DISK01.BKUP 000301 S     1 TSIBACK  07/02/1997 07/02/1997 02.36    F2 610   3549 TSIBACK  07/02/1997   1            5   0   0
EPIC.DISK01.BKUP 000258 S     1 TSIBACK  06/28/1997 06/28/1997 02.38    F2 611   5435 TSIBACK  06/28/1997   1            8   0   0
EPIC.DISK01.BKUP 000281 S     1 TSIBACK  06/24/1997 06/24/1997 02.36    F2 610   5990 TSIBACK  06/24/1997   1            9   0   0
EPIC.DISK01.BKUP 000240 S     1 TSIBACK  06/21/1997 06/21/1997 05.48    F2 610   3684 TSIBACK  06/21/1997   1            9   0   0
EPIC.DISK01.BKUP 000712 S     1 TSIBACK  06/17/1997 06/17/1997 04.43    F6 611   5127 TSIBACK  06/17/1997   1            1   0   0
EPIC.DISK01.BKUP 000661 S     1 TSIBACK  06/10/1997 06/10/1997 02.36    F2 610   5929 TSIBACK  06/10/1997   1            2   0   0
EPIC.DISK01.BKUP 000609 S     1 TSIBACK  06/07/1997 06/07/1997 02.37    F6 610   4939 TSIBACK  06/07/1997   1            2   0   0
EPIC.DISK01.BKUP 000566 S     1 TSIBACK  06/06/1997 06/06/1997 02.37    F2 610   4930 TSIBACK  06/06/1997   1            2   0   0
EPIC.DISK01.BKUP 000525 S     1 NO NAME  06/05/1997 06/05/1997 04.31    F2 610   4910 NO NAME  06/05/1997   1            4   0   0
EPIC.DISK01.BKUP 000480 S     1 NO NAME  06/04/1997 06/04/1997 04.33    F2 610   4984 NO NAME  06/04/1997   1            3   0   0
EPIC.DISK01.BKUP 000433 S     1 NO NAME  06/03/1997 06/03/1997 06.49    F2 620   5066 NO NAME  06/03/1997   1            4   0   0
EPIC.DISK01.BKUP 000454 S     1 NO NAME  05/22/1997 05/22/1997 02.36    F2 610   4500 NO NAME  05/22/1997   1            4   0   0
EPIC.DISK01.BKUP 000427 S     1 NO NAME  05/21/1997 05/21/1997 08.08    F6 610   5746 NO NAME  05/21/1997   1            4   0   0
EPIC.DISK01.BKUP 000415 S     1 NO NAME  05/15/1997 05/15/1997 02.36    F2 610   5126 NO NAME  05/15/1997   1            7   0   0
EPIC.DISK01.BKUP 000422 S     1 NO NAME  05/07/1997 05/07/1997 02.38    F2 611   5800 NO NAME  05/07/1997   1            3   0   0
EPIC.DISK01.BKUP 000683 S     1 TSIBACK  03/14/1997 03/14/1997 07.04    F2 611   4654 TSIBACK  03/14/1997   1            1   0   0
EPIC.DISK01.BKUP B12873 S     1 TSIBACK  02/15/1997 02/15/1997 15.19    F6 803   3483 TSIBACK  02/15/1997   1            1   0   0
EPIC.DISK01.BKUP B12110 S     1 TSIBACK  02/14/1997 02/14/1997 05.20    F2 802   3378 TSIBACK  02/14/1997   1            1   0   0
EPIC.DISK01.BKUP B12862 S     1 TSIBACK  02/13/1997 02/13/1997 05.21    F6 802   3389 TSIBACK  02/13/1997   1            1   0   0
EPIC.DISK01.BKUP B12183 S     1 TSIBACK  02/09/1997 02/09/1997 22.36    BG 801   3194 TSIBACK  02/09/1997   1            1   0   0
EPIC.DISK01.BKUP B12017 S     1 TSIBACK  02/02/1997 02/02/1997 00.37    BG 800   3177 TSIBACK  02/02/1997   1            1   0   0
EPIC.DISK01.BKUP B12500 S     1 DCMBATCH 01/25/1997 01/25/1997 15.07    W3 000      0 EPICRSTR 01/25/1997   1            1   0   0
EPIC.DISK01.BKUP B12547 S     2 DCMBATCH 01/25/1997 01/25/1997 15.07    W3 000      0 DCMBATCH 01/25/1997   0            0   0   0
EPIC.DISK01.BKUP B12437 S     3 DCMBATCH 01/25/1997 01/25/1997 15.07    W3 000      0 DCMBATCH 01/25/1997   0            0   0   0
GAS.METER.BKUP   000223 S     1 MGMBAKUP 07/01/1997 07/01/1997 07.04    C3 610    168 MGMBAKUP 07/01/1997   1            6   0   0
KKL.TEST.TAPE    000584 S     1 FAV22BK  06/06/1997 06/08/1997 12.05    BG 610   2345 FAV22R   06/06/1997   2            3   0   0
MBOOKFL.BACKUP   000618 S     1 VSNMBOOK 06/08/1997 06/13/1997 08.06    C1 611   2080 VSNMBOOK 06/08/1997   2            2   0   0
NOTEFL.BKUP      000221 S     1 CSNNOTBK 08/02/1997 08/03/1997 00.58    C2 611   2225 CSNNOTRS 08/02/1997   2            8   0   0
NOTEFL.BKUP      000995 S     1 CSNNOTBK 07/19/1997 07/20/1997 01.16    F5 620   2209 CSNNOTRS 07/19/1997   2            2   0   0
NOTEFL.BKUP      000599 S     1 CSNNOTBK 06/07/1997 06/08/1997 01.22    F5 620   2345 CSNNOTRS 06/07/1997   2            3   0   0
ODE.P.LIB.ARCHIVE 000987 S    1 ODEBACKP 07/18/1997 07/18/1997 19.16    C4 621    216 ODEBACKP 07/18/1997   1            1   0   0
ODE.P.LIB.ARCHIVE 000592 S    1 ODEBACKP 06/06/1997 06/06/1997 20.35    C2 611    216 ODEBACKP 06/06/1997   1            2   0   0
ODE.SAVE1        001092 S     1 ODESAVE  07/23/1997 07/23/1997 19.40    C1 620    804 ODESAVE  07/23/1997   1            1   0   0
ODE.SAVE1        001063 S     1 ODESAVE  07/22/1997 07/22/1997 19.21    C1 620    835 ODESAVE  07/22/1997   1            1   0   0
ODE.SAVE1        001032 S     1 ODESAVE  07/21/1997 07/21/1997 20.47    C1 610    809 ODESAVE  07/21/1997   1            1   0   0
ODE.SAVE1        000986 S     1 ODESAVE  07/18/1997 07/18/1997 19.13    C3 621    793 ODESAVE  07/18/1997   1            1   0   0
ODE.SAVE1        000955 S     1 ODESAVE  07/17/1997 07/17/1997 18.59    C3 620    736 ODESAVE  07/17/1997   1            1   0   0
ODE.SAVE1        000921 S     1 ODESAVE  07/16/1997 07/16/1997 19.01    C2 620    728 ODESAVE  07/16/1997   1            1   0   0
ODE.SAVE1        000888 S     1 ODESAVE  07/15/1997 07/15/1997 19.58    C3 611    741 ODESAVE  07/15/1997   1            1   0   0
ODE.SAVE1        000852 S     1 ODESAVE  07/14/1997 07/14/1997 19.33    C3 611    724 ODESAVE  07/14/1997   1            1   0   0
ODE.SAVE1        000260 S     1 ODESAVE  07/07/1997 07/07/1997 20.05    C1 610    815 ODESAVE  07/07/1997   1           12   0   0
ODE.SAVE1        000440 S     1 ODESAVE  07/02/1997 07/02/1997 19.11    F2 620    787 ODESAVE  07/02/1997   1            3   0   0
ODE.SAVE1        000697 S     1 ODESAVE  06/16/1997 06/16/1997 21.27    C1 611    642 ODESAVE  06/16/1997   1            1   0   0
ODE.SAVE1        000646 S     1 ODESAVE  06/09/1997 06/09/1997 20.52    C1 610    646 ODESAVE  06/09/1997   1            2   0   0
ODE.SAVE1        000591 S     1 ODESAVE  06/06/1997 06/06/1997 20.31    C3 611    630 ODESAVE  06/06/1997   1            2   0   0
ODE.SAVE1        000551 S     1 ODESAVE  06/05/1997 06/05/1997 20.30    C1 620    595 ODESAVE  06/05/1997   1            1   0   0
ODE.SAVE1        000510 S     1 ODESAVE  06/04/1997 06/04/1997 20.17    F5 610    585 ODESAVE  06/04/1997   1            3   0   0
ODE.SAVE1        000389 S     1 ODESAVE  06/02/1997 06/02/1997 21.24    C1 610    726 ODESAVE  06/02/1997   1            5   0   0
ODE.SAVE1        000671 S     1 ODESAVE  03/13/1997 03/13/1997 19.49    C1 610    665 ODESAVE  03/13/1997   1            1   0   0
P.FC.PD.ESA110   004990 S     1 FCPYD110 07/17/1997 07/17/1997 23.18    F2 610  32347 FCPYD110 07/17/1997   1            5   0   0
P.FC.PD.ESA110   004293 S     1 FCPYD110 07/16/1997 07/16/1997 22.44    F2 610  32347 FCPYD110 07/16/1997   1            6   0   0
P.FC.PD.ESA110   004274 S     1 FCPYD110 07/15/1997 07/15/1997 23.07    F2 610  32347 FCPYD110 07/15/1997   1            7   0   0
P.FC.PD.ESA110   004249 S     1 FCPYD110 07/07/1997 07/07/1997 22.47    F2 610  32347 FCPYD110 07/07/1997   1           13   0   0
P.FC.PD.ESA111   004217 S     1 FCPYD111 07/23/1997 07/23/1997 00.01    F5 611  32347 FCPYD111 07/23/1997   1           11   0   0
P.FC.PD.ESA111   004991 S     1 FCPYD111 07/17/1997 07/17/1997 23.22    F5 611  32347 FCPYD111 07/17/1997   1            4   0   0
P.FC.PD.ESA111   004294 S     1 FCPYD111 07/16/1997 07/16/1997 22.46    F5 611  32347 FCPYD111 07/16/1997   1            9   0   0
P.FC.PD.ESA111   004275 S     1 FCPYD111 07/15/1997 07/15/1997 23.09    F5 611  32347 FCPYD111 07/15/1997   1            8   0   0
```


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PSCRATCH Report (Projected Scratch)

Description

The PSCRATCH report lists all tapes that become scratch tapes by the specified date. This report also lists current DSN Catalog usage statistics.

The requested projected date is shown next to the PSCRATCH report title and is written in Julian format. For example, PSCRATCH 96001 indicates a projected scratch date of January 1, 1996.

At the end of this report, message EP119 is issued to report on DSN Catalog usage.

Definitions

The following describes the fields located on the PSCRATCH report.

Field	Definition
SERIAL NO	Specifies the volume serial number of the tape.
FILE NAME	Specifies the dataset name of the version written on this tape.
CREATION DATE	Specifies the date this version was created.
EXPIRATION DATE	Specifies date retention criteria may be satisfied for this version.
TAPE ERRORS	Specifies the number of temporary read/write errors encountered on this tape while the version resided on the tape.
TOT-ERR	Specifies the total number of errors that occurred since the tape was last cleaned.
TOT-USED	Specifies the total number of times the tape was used since the last cleaning.
DT-CLEAN	Specifies the date the tape was last cleaned.
VLT	Specifies the current vault location of the tape.
SLOT	Specifies the current slot location of the tape.

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Example

The following is an example of the TSIDUTL PSCRATCH report.

```
 TSIDUTL= 6.01.00                        D A T A   S E T   M A N A G E M E N T   S Y S T E M                                  PAGE    1
 TIME 13.42.37            PSCRATCH 99095                                                                                DATE 12/04/1997
SERIAL                                                  CREATION   EXPIRATION  TAPE
  NO     FILE NAME                                        DATE        DATE    ERRORS TOT-ERR TOT-USED  DT-CLEAN  POOL     VLT   SLOT
HEW001 IDCAMS.BACKUP                                   11/14/1997  11/14/1997     0       0        1                          0      0
JA0001 IDCAMS.BACKUP                                   11/14/1997  11/14/1997     0       0        4                          0      0
000001 ELECTRIC.METER.BK                               08/02/1997  08/12/1997     0       0       41                          0      0
000007 PMTHIST.BKUP                                    08/02/1997  08/09/1997     0       0       42                          0      0
000028 P.SQL.LOG.ARC                                   08/02/1997  08/09/1997     0       0       28                          1     99
000062 UCAT110A.BKUP                                   08/03/1997  08/06/1997     0       0       19                          0      0
000063 UCAT111A.BKUP                                   08/03/1997  08/06/1997     0       0       12                          0      0
000065 UCAT112A.BKUP                                   08/03/1997  08/06/1997     0       0       12                          0      0
000067 WWSTATS.BKUP.TAPE                               07/10/1997  08/09/1997     0       0        9                          0      0
000070 VSAM.BKUP.TEC                                   08/03/1997  08/05/1997     0       0       14                          0      0
000079 MBOOKFL.BACKUP                                  08/03/1997  08/08/1997     0       0       12                          0      0
000154 P.SQL.LOG.ARC                                   07/29/1997  08/05/1997     0       0       16                          2      0
```


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TSIDVLT Report

Description

TSIDVLT produces two reports listing tapes which should be moved. One is a Picking List which is sorted by the current location of the tape. The other is a Distribution List which is sorted by the new destination of the tape. Both reports list the current location of tape reels and their new location. They are designed to assist vault workers in the physical movement of tapes from vault to vault. See Chapter 13, "VTOC Listings (TSIDLVT)," for additional information on producing reports.

Definitions

The following describes the fields located on the TSIDVLT reports.

Field	Definition
VAULT INFORMATION & SLOT	Specifies number and name of the vault and the number of the slot from which the tape should be moved.
SER-NO	Specifies volume serial number of the tape.
VER	Specifies the tape version number.
REEL	Specifies tape reel sequence number which is important for multi-volume versions.
DATASET NAME	Specifies dataset name of the version on the tape.
VAULT INFORMATION & SLOT	Specifies number and name of the vault and the number of the slot where the tape should be moved.

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Example

The following is an example of the TSIDVLT Vault Movement report.

```
TSIDVLT                                VAULT MOVEMENT REPORT
DATE 12/11/1997                                                                                    TIME 15 08 50
----------F R O M---------                                                                  ------------T O-----------
VAULT INFORMATION           SLOT  SER-NO  VER REEL   DATASET NAME                          VAULT INFORMATION           SLOT
  1 VAULT 1                  112 004207   1   1   T.FCOPY.ESA212                          0 MAIN LIBRARY               0
  1 VAULT 1                  113 004208   1   1   T.FCOPY.ESA213                          0 MAIN LIBRARY               0
  1 VAULT 1                  119 000101   1   1   T.FCOPY.TST701                          0 MAIN LIBRARY               0
  1 VAULT 1                  120 004013   1   1   T.FCOPY.T21RES                          0 MAIN LIBRARY               0
  1 VAULT 1                  121 004014   1   1   T.FCOPY.T21WK1                          0 MAIN LIBRARY               0
TSIDVLT                                VAULT MOVEMENT REPORT
DATE 12/11/1997                                                                                    TIME 15 08 50
----------F R O M---------                                                                  ------------T O-----------
VAULT INFORMATION           SLOT  SER-NO  VER REEL   DATASET NAME                          VAULT INFORMATION           SLOT
  2 VAULT 2                        T12994   2   1   T.ZEKE.AUDIT.BKUP                       1 VAULT 1                 110
  2 VAULT 2                        000118   2   1   T.KCOPY.TST701                          1 VAULT 1                  98
  2 VAULT 2                        000154   2   1   P.SQL.LOG.ARC                           1 VAULT 1                 197
  2 VAULT 2                        000220   2   1   EPIC.DISK01.BKUP                        1 VAULT 1                 106
  2 VAULT 2                        000251   2   1   CONSTR.JOURNAL.BK                       1 VAULT 1                  30
  2 VAULT 2                        000252   2   1   BUDGET.SQLBKUP                          1 VAULT 1                   8
  2 VAULT 2                        000279   2   1   P.RPFICH.MONTHLY                        1 VAULT 1                 195
TSIDVLT                                VAULT MOVEMENT REPORT
DATE 12/11/1997                                                                                    TIME 15 08 50
------------T O-----------                                                                  ----------F R O M---------
VAULT INFORMATION           SLOT  SER-NO  VER REEL   DATASET NAME                          VAULT INFORMATION           SLOT
  1 VAULT 1                    1 010185   1   1   PT.A011.CLM.CK.BK                       5 ________________________    0
  1 VAULT 1                    2 090651   2   1   AR.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE   2 VAULT 2                     0
  1 VAULT 1                    3 010005   1   1   PT.D089.NAMES                           5 ________________________    0
  1 VAULT 1                    4 090653   2   1   AR.PROD.NCL.EREXTR.EL860.OFFSITE        2 VAULT 2                     0
  1 VAULT 1                    5 010072   1   1   ST.ADABAS.FILE114.JR114UPD              5 ________________________    0
TSIDVLT                                VAULT MOVEMENT REPORT
DATE 12/11/1997                                                                                    TIME 15 08 50
------------T O-----------                                                                  ----------F R O M---------
VAULT INFORMATION           SLOT  SER-NO  VER REEL   DATASET NAME                          VAULT INFORMATION           SLOT
  2 VAULT 2                    1 090529   3   1   AR.PROD.NCL.ELME3BKP.GVEXPORT.OFFSITE   3 VAULT 3                     0
  2 VAULT 2                    2 090531   3   1   AR.PROD.NCL.EREXTR.EL860.OFFSITE        3 VAULT 3                     0
  2 VAULT 2                    3 090532   3   1   AR.PROD.NCL.ERPNDB.EL860.OFFSITE        3 VAULT 3                     0
  2 VAULT 2                    4 090652   3   1   AR.PROD.NCL.ERPYAJ.EL860.OFFSITE        3 VAULT 3                     0
  2 VAULT 2                    5 000432   3   1   BUDGET.SQLBKUP                          3 VAULT 3                     0
```


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&&dsname (UR), 28
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